



**Tools cut better  
with TIGRA**



**2019**

**Woodworking**



**Holzbearbeitung**

**Travail du bois**

**Lavorazione del legno**

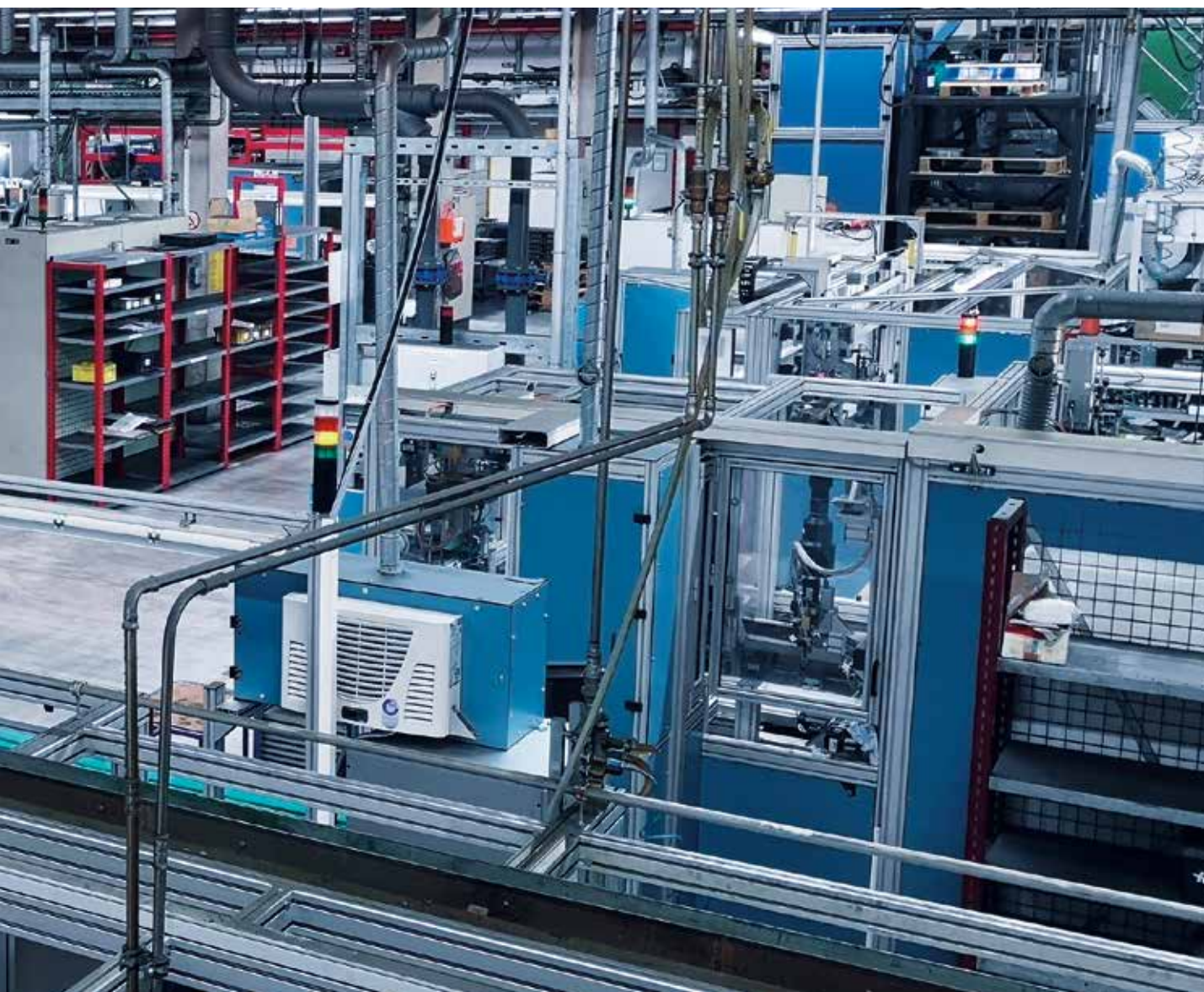
**Trabajo de madera**



	<p><b>EN</b> Technical data</p> <p><b>DE</b> Technische Daten</p> <p><b>FR</b> Caractéristiques techniques</p>	<p><b>IT</b> Dati tecnici</p> <p><b>ES</b> Datos técnicos</p>
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	<p><b>EN</b> PCD – Polycrystalline diamond</p> <p><b>DE</b> PKD – Polykristalliner Diamant</p> <p><b>FR</b> PCD – Diamant policristallin</p>	<p><b>IT</b> PCD – Diamante policristallino</p> <p><b>ES</b> PCD – Diamante policristalino</p>





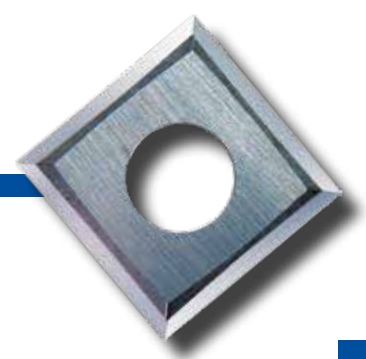


EN Technical data  
DE Technische Daten  
FR Caractéristiques techniques  
IT Dati tecnici  
ES Datos técnicos

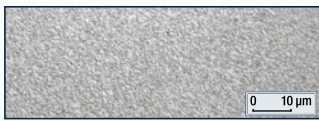
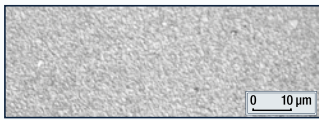

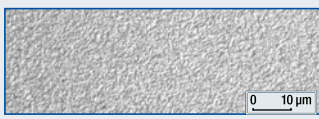

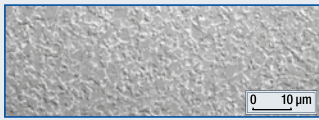
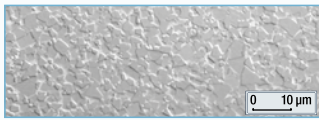
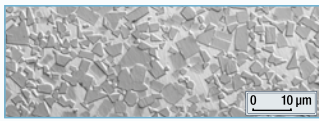
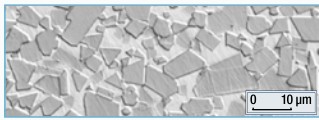

- EN TIGRA carbide grades – Technical Data  
 DE TIGRA Hartmetallsorten – Technische Daten  
 FR Nuances carbure TIGRA – Caractéristiques techniques  
 IT I tipi di metallo duro TIGRA – Dati tecnici  
 ES Calidades de metal duro TIGRA – Datos técnicos

EN DE FR IT ES	TIGRA grade TIGRA - Sorte Nuance TIGRA Tipo TIGRA Calidad TIGRA	Binder Binder Liant Legante Composicion	Hardness Härte Dureté Durezza Durezza		Bending strength Biegebruchfestigkeit Résistance à la flexion Resistenza flessionale Resistencia a la flexión		Toughness Zähigkeit Ténacité Tenacità Tenacidad
			%	HV 10	HRA	N/mm <sup>2</sup>	
	<b>T02MG-CR</b> ISO: K01 USA: C4 +++	2.5	> 2.200	> 94.9	2400	348.000	7.6
	<b>T03SMG</b> ISO: K01 USA: C4 ++	3.5	2100	94.6	2600	377.000	7.5
	<b>T03MG-CR</b> ISO: K01 USA: C4 ++	3.0	2050	94.5	2500	363.000	7.8
	<b>T03F-CR</b> ISO: K01 USA: C4 +	3.0	1950	94.1	2300	334.000	8.0
	<b>T04MG-CR</b> ISO: K01 USA: C4 +	4.3	1900	93.8	2350	341.000	8.6
	<b>T04F-CR</b> ISO: K05 USA: C4	4.2	1800	93.3	2350	341.000	9.0
	<b>T05UMG</b> ISO: K01-K10 USA: C3 ++	5.0	2050	94.5	2450	355.000	7.8
	<b>T06MG</b> ISO: K01-K20 USA: C3 ++	6.0	1800	93.3	2700	392.000	8.4
	<b>T06F-CR</b> ISO: K10 USA: C3	6.0	1740	92.9	2350	341.000	8.9
	<b>T07MF-CR</b> ISO: K20-K30 USA: C2-C3	7.5	1580	91.7	2600	377.000	10.1
	<b>T07MF-W</b> ISO: K20-K30 USA: C2-C3	7.5	1540	91.5	2550	370.000	10.2
	<b>T10MG</b> ISO: K10-K40 USA: C3 +	10.0	1650	92.3	3700	537.000	10.0
	<b>T10MG-W</b> ISO: K10-K40 USA: C3 +	10.0	1600	92.0	3600	522.000	9.8
	<b>T12SMG</b> USA: C1 ++	12.0	1700	92.7	4000	580.000	9.5
	<b>T12M-CR</b> ISO: > K40 USA: C1	12.0	1200	88.3	2700	392.000	13.9
	<b>T15C</b> ISO: > K40 USA: Nail Cut	15.0	890	84.5	3000	435.000	> 20
	<b>TL15*</b> ISO: K10-K40 USA: C3 +	13.5	1450	90.8	3800	551.000	10.8
	<b>TL20*</b> ISO: K10-K40 USA: C2 +	20.0	1230	88.6	3700	537.000	> 20

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo  
 \* Special binder - Spezialbinder - Liant spécial - Legante speciale - Composición especial

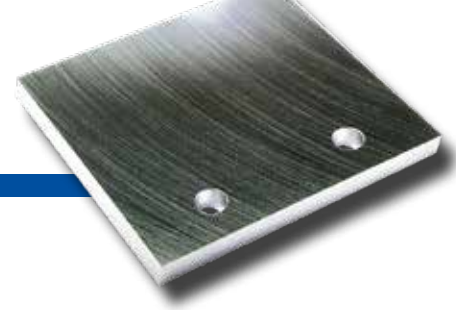


- EN TIGRA carbide grades – Grain sizes and binder content
- DE TIGRA Hartmetallsorten – Korngrößen und Bindergehalt
- FR Nuances carbure TIGRA – Grosseur du grain et contingent de liant
- IT I tipi di metallo duro TIGRA – Grossezza del grano e quota di legante
- ES Calidades de metal duro TIGRA – Tamaño del grano y cuota de la composición

EN DE FR IT ES	Shortform Abkürzung Abréviation Abbreviazione Abreviatura	Explanation Erklärung Explication Spiegazione Explicación	Grain size Korngröße Grosseur du grain Grossezza del grano Tamaño del grano		
				( $\mu\text{m}$ )	
	<b>NG</b>	<b>Nano Grain</b>		<b>0.2</b>	
	<b>UMG</b>	<b>Ultra Micro Grain</b>		<b>0.2 - 0.5</b>	
	<b>SMG</b>	<b>Sub Micro Grain</b>		<b>0.5 - 0.7</b>	
	<b>MG</b>	<b>Micro Grain</b>		<b>0.7 - 1.0</b>	
	<b>F</b>	<b>Fine Grain</b>		<b>1.0 - 1.4</b>	
	<b>MF</b>	<b>Medium Fine Grain</b>		<b>1.4 - 2.5</b>	
	<b>M</b>	<b>Medium Grain</b>		<b>2.5 - 4.0</b>	
	<b>C</b>	<b>Coarse Grain</b>		<b>4.0 - 10.0</b>	
	<b>EC</b>	<b>Extra Coarse</b>		<b>&gt; 10</b>	

- EN Detailed application recommendations can be found in the individual chapters.
- DE Detaillierte Anwendungsempfehlungen finden Sie in den einzelnen Kapiteln.
- FR Pour les recommandations d'application détaillées, veuillez voir aux chapitres suivants.
- IT Suggestimenti di impiego dettagliati si trovano nei singoli capitoli.
- ES Recomendaciones de aplicación detalladas, se encuentran en los capítulos individuales.





- EN TIGRALLOY – Technical Data  
DE TIGRALLOY – Technische Daten  
FR TIGRALLOY – Caractéristiques techniques  
IT TIGRALLOY – Dati tecnici  
ES TIGRALLOY – Datos técnicos

**EN TIGRALLOY**, a cutting material, consisting of a mixture of hard chromium and tungsten carbide that are embedded in a tough cobalt matrix. This results in an ideal combination of high hardness and high toughness. Therefore TIGRALLOY is an ideal cutting material for many kinds of solid wood. In addition to the good wear resistance, there is a high heat resistance. Very good brazability and the opportunity to grind extremely sharp cutting edges.

**Characteristics:**

Heat resistance: up to 800°C / 1500°F - Highly corrosion resistant - Extremely shock proof

Hardness: TL48: 48HRC - TL60: 60 HRC

**DE TIGRALLOY** besteht aus harten Chrom- und Wolframkarbiden, die in einer zähen Kobaltmatrix eingelagert sind. Daraus entsteht eine ideale Kombination von hoher Härte und besonders guter Zähigkeit. TIGRALLOY ist damit ein idealer Schneidstoff für die Bearbeitung vieler Massivhölzer. Zu einer hohen Verschleißfestigkeit kommt eine hohe Hitzebeständigkeit, eine sehr gute Lötbarkeit und die Möglichkeit, mit sehr scharfen Schneidkanten zu arbeiten.

**Eigenschaften:**

Hitzebeständigkeit: bis 800°C - Sehr korrosionsbeständig - Hohe Bruchfestigkeit

Härte: TL48: 48HRC - TL60: 60 HRC

**FR TIGRALLOY** est constitué de carbures de chrome et de tungstène durs qui sont logés dans une matrice de cobalt résistante. TIGRALLOY est ainsi un matériau de coupe idéal pour l'usinage de nombreux bois massifs. Outre une grande résistance à l'usure, il présente également une forte résistance à l'échauffement, une excellente brasabilité et la possibilité de travailler avec des arêtes de coupe très vives.

**Propriétés:**

Résistance à la chaleur: jusqu'à 800°C - Très résistant à la corrosion - Grande résistance à la rupture

Dureté: TL48: 48HRC - TL60: 60 HRC

**IT TIGRALLOY** è composta da carburo duro di cromo e tungsteno, incastonati in una matrice di cobalto tenace. Una combinazione ideale di durezza e di resistenza.

TIGRALLOY è oltretutto materiale ideale al taglio di molti tipi particolari di legno. La buona resistenza all'usura nonché la grande resistenza termica e una buona saldobrasatura permettono l'uso di taglienti molto affilati.

**Caratteristiche:**

Resistenza termica: fino a 800°C - Alta resistenza alla corrosione - Alta resistenza flessionale

Durezza: TL48: 48HRC - TL60: 60 HRC

**ES TIGRALLOY** se compone de carburos duros de cromo y volframio que están depositados en una matriz de cobalto resistente. Así se consigue una combinación ideal de alta dureza y de resistencia especialmente buena. Por lo tanto, TIGRALLOY es un material de corte ideal para el labrado de muchas maderas macizas. A esa alta resistencia de desgaste se añade una alta resistencia refractaria, una buena soldadura y la posibilidad de trabajar con aristas cortantes muy vivas.

**Propiedades:**

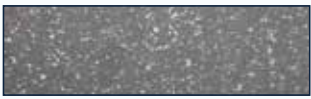
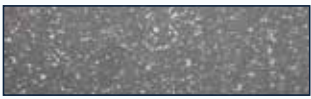
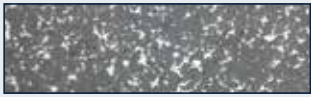







Resistencia a calor hasta 800°C - Alta resistencia a la corrosión - Alte resistencia a la rotura

Dureza: TL48: 48HRC - TL60: 60 HRC





- EN TIGRA PCD grades – Grain sizes and binder  
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 IT I tipi di PCD TIGRA – Grossezza del grano e legante  
 ES Calidades de PCD TIGRA – Tamaño del grano y composición

EN DE FR IT ES	Shortform Abkürzung Abréviation Abbreviazione Abreviatura	Binder Binder Liant Legante Composición	Diamond content Diamantgehalt Teneur en diamond Contenuti diamante Contenido de diamante	Grain size Korngröße Grosseur du grain Grossezza del grano Tamaño del grano	
				( $\mu\text{m}$ )	
	<b>ES</b>	standard	standard	0.5-0.8	
	<b>FX</b>	special	standard	2-4	
	<b>MX+</b>	special	standard	8-10	
	<b>MU+</b>	ultrahard	very high	2-4 + 8-10	
	<b>MS</b>	standard	standard	8-10	
	<b>MS-W</b>	standard	standard	8-10	
	<b>CX</b>	special	standard	20-35	
	<b>CU</b>	ultrahard	very high	2-4 + 20-35	
	<b>GM60</b>	standard	low	8-10	

- EN Detailed application recommendations can be found in the individual chapters.  
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 ES Recomendaciones de aplicación detalladas, se encuentran en los capítulos individuales.



- EN TIGRA HSS materials – Technical Data
- DE TIGRA HSS-Materialien – Technische Daten
- FR Matériaux HSS TIGRA – Caractéristiques techniques
- IT I materiali di HSS TIGRA – Dati tecnici
- ES Materiales de HSS TIGRA – Datos técnicos

EN	Name	Main usage
DE	Name	Hauptverwendung
FR	Nom	Usage principal
IT	Nome	Main uso
ES	Nombre	Uso principal
	<b>HSS</b>	EN Universal grade for soft and hardwood DE Universalsorte für Weich- und Hartholz FR Nuance universelle pour des bois tendres et durs IT Qualità universale per legni teneri e duri ES Calidad universal para maderas duras y blandas
	<b>HSS 18%</b>	EN Abrasive and very hard woods DE Abrasive und sehr harte Hölzer FR Bois abrasifs et très durs IT Legni abrasivi e molto duri ES Maderas abrasivas y muy duras
	<b>HSS M42</b>	EN Abrasive applications DE Abrasive Anwendungen FR Applications abrasives IT Applicazioni abrasive ES Aplicaciones para materiales aprasivos
	<b>High Performance Steel</b>	EN Softwood, low price demands DE Weichholz, niedriger Preis FR Bois tendre, prix bas IT Legni teneri, prezzo ridotto ES Madera blanda, precio economico

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- ES Recomendaciones de aplicación detalladas, se encuentran en los capítulos individuales.



- EN TIGRA coatings – Technical Data  
DE TIGRA Beschichtungen – Technische Daten  
FR Les revêtements TIGRA – Caractéristiques techniques  
IT I rivestimenti TIGRA – Dati tecnici  
ES Los recubrimientos TIGRA – Datos técnicos



**EN Matrix - coating technology:**

Unique coating for maximum lifetime requirements

- Tool life is on average 3-5 times longer
- Coating penetrates into the material
- Still significantly longer tool life after resharpening
- Smoother surface

**DE Matrix - coating technology:**

Einzigartige Beschichtung für höchste Standwegansprüche

- Durchschnittlich 3-5-facher Standweg
- Beschichtung dringt in das Material ein
- Auch nach dem Nachschärfen noch deutlich längere Standwege
- Glattere Oberfläche

**FR Matrix - coating technology:**

Un revêtement unique pour une tenue d'outil inégalée

- En moyenne la tenue d'outil est multipliée par 3-5
- Le revêtement pénètre le matériau
- Des tenues d'outil nettement plus longues, même après le réaffûtage
- Surface plus lisse

**IT Matrix - coating technology:**

Rivestimento unico per esigenze di massima durata

- Una durata media 3-5 volte più lunga
- Il rivestimento penetra nel materiale
- Anche dopo la riaffilatura la durata è considerevolmente più lunga
- Superficie più liscia

**ES Matrix - coating technology:**

Recubrimiento exclusivo para un máximo rendimiento

- Ratio de vida de la herramienta 3-5 veces
- Recubrimiento se adhiere al material
- Duracion de vida significativamente superior después de reafilado
- Superficie más lisa



hard — soft — hard  
 hart — weich — hart  
 dur — souple — dur  
 duro — morbido — duro  
 duro — macio — duro

- EN TIGRA HSS Black Oxide – Technical Data
- DE TIGRA HSS-Black Oxide – Technische Daten
- FR HSS TIGRA Black Oxide – Caractéristiques techniques
- IT HSS TIGRA Black Oxide – Dati tecnici
- ES HSS TIGRA Black Oxide – Datos técnicos



**EN Optimized distribution of hardness**

The unique manufacturing process maneuvers hardness to where it belongs: the cutting edge. The core of the knife remains soft to help protect against breakage and to also increase the ease of an eventual straightening.

**Polished cutting edge**

For an extra-aggressive cut in the wood, the cutting edge has a second, partial polish grind.

**Black Oxide Surface**

The thin black surface layer of ferric oxide, only nanometers thick, runs across the top and bottom. This improves corrosion resistance and prevents early rusting.

**DE Optimierte Härteverteilung**

Durch das spezielle Herstellungsverfahren wird die Härte genau dort hin gebracht, wo sie auch benötigt wird: in die Schneidkante. Der Kern des Messers bleibt weich und flexibel, was Bruch vorbeugt und das eventuelle Richten nach dem Nachschärfen vereinfacht.

**Polierte Schneidkante**

Für einen besonders giftigen Eingriff im Holz und eine sehr gute Holzoberfläche hat die Schneidkante einen zweiten, polierten Schliff.

**Black Oxide Surface**

Die wenige Nanometer starke, schwarze Schicht aus Eisenoxyd auf Ober- und Unterseite macht das Messer beständiger gegen Korrosion und verhindert frühzeitiges Rosten.

**FR Répartition optimale de la dureté**

Grâce au procédé de fabrication spécial, la dureté est là où besoin en est: au niveau du tranchant. Le noyau du couteau reste souple et flexible, ce qui prévient la rupture et simplifie l'ajustement après le réaffûtage.

**Tranchant poli**

Le tranchant bénéficie d'un deuxième polissage, pour une coupe particulièrement nette et une très bonne surface de bois.

**Surface Black Oxide**

La couche noire en oxyde de fer, d'une épaisseur de quelques nanomètres sur le dessus et le dessous rend le couteau plus résistant contre la corrosion et la rouille anticipée.

**IT Migliorata distribuzione della durezza**

Grazie ad un particolare metodo di produzione, la durezza del coltello è là dove è maggiormente richiesta, sul tagliente. La parte centrale del coltello rimane più morbida e flessibile, si evitano così rotture e la riaffilatura è più semplice.

**Tagliente parzialmente lappato**

Per un taglio su legno più preciso e affilato, il tagliente è parzialmente lappato.

**Superficie „Black Oxide“**

La sottile superficie di ossido di ferro nera, rende il coltello più resistente alla corrosione e alla ruggine.

**ES Distribucion optimizada de la Dureza**

El exclusivo proceso permite distribuir la dureza en el filo de corte. El nucleo de la cuchilla permanece tenaz ayudando a evitar la rotura asi como permitiendo la planitud del cuerpo de la placa.

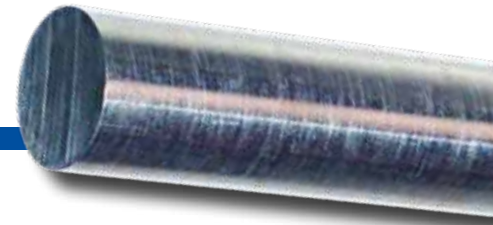
**Lapeado del flanco de corte**

Para condiciones severas de corte en la madera , el filo de corte dispone de un doble acabado lapeado.

**Recubrimiento superficial-„Black Oxide“**

La superficie exterior permanece recubierta de oxido ferrico con espesores de nanómetros, mejorando la resistencia a la corrosion.





- EN TIGRAMet - Heavy alloy tool body blanks – Technical Data  
 DE TIGRAMet - Grundkörperrohlinge aus Schwermetall – Technische Daten  
 FR TIGRAMet - Ébauches en métal lourd - Caractéristiques techniques  
 IT TIGRAMet - Corpo utensile grezzo in metallo pesante - Dati tecnici  
 ES TIGRAMet - Cuerpos de metal pesado - Datos técnicos

EN TIGRAMet is a high density tungsten heavy alloy which is ideally suited for high stiffness tooling. TIGRA supplies pre-peeled heavy alloy rods with a high Young's modulus (elasticity). This also leads to a high absorption of vibration. Despite the high density (17g/cm<sup>3</sup>), it is still easy to machine. TIGRAMet has 40% less tendency to bend when compared to steel tool bodies. TIGRAMet is available from stock in many dimensions.

Your benefits:

- high stiffness
- less vibrations
- cut-to-size available
- large stock
- favorable pricing
- special dimensions upon request

DE TIGRAMet ist ein hochdichtes Schwermetall auf Wolframbasis, welches ideal für Werkzeuge mit großen Steifigkeitsansprüchen geeignet ist. TIGRA liefert vorgeschälte Schwermetall-Rundstäbe mit hohem Elastizitätsmodul. Dies führt zu stark gedämpften Schwingungen. Trotz der Dichte von 17 g/cm<sup>3</sup> lässt sich TIGRAMet noch gut zerspanen und reduziert die Durchbiegung im Vergleich zu Stahlgrundkörpern um 40%. TIGRAMet ist in vielen Abmessungen ab Lager verfügbar.

Ihre Vorteile:

- hohe Steifigkeit
- geringe Vibrationen
- Fixlängen lieferbar
- großes Lager
- günstige Preise
- Sonderabmessungen auf Anfrage

FR TIGRAMet est un métal lourd haute densité à base de tungstène, qui convient idéalement aux outils à exigences élevées en terme de rigidité. TIGRA fournit des barreaux cylindriques pré-brasés en métal lourd à module d'élasticité élevé. Cela conduit à des oscillations fortement amorties. Malgré une densité égale à 17 g/cm<sup>3</sup>, TIGRAMet reste encore facile à usiner et réduit la flexion de 40 % comparativement à des corps de base en acier. TIGRAMet est disponible sur stock en différentes dimensions.

Vos avantages:

- une rigidité élevée
- des vibrations réduites
- des longueurs spécifiques sur demande
- un large stock
- des prix bas
- des dimensions spéciales disponibles sur demande

IT TIGRAMet è un metallo pesante ad alta densità a base di tungsteno, ideale per utensili con esigenze di rigidità. TIGRA fornisce cilindri pelati in metallo pesante con elevato modulo di elasticità. Ciò permette di avere oscillazioni estremamente attenuate. Nonostante la densità di 17 g/cm<sup>3</sup>, TIGRAMet è facilmente lavorabile e riduce la flessione del 40% rispetto alle basi in acciaio. TIGRAMet è disponibile franco magazzino in molte misure.

I vostri vantaggi:

- elevata rigidità
- vibrazioni minime
- disponibile in lunghezze fisse
- ampia disponibilità
- prezzi vantaggiosi
- misure particolari su richiesta

ES TIGRAMet es una aleación de tungsteno pesado de alta densidad , especialmente adecuada para herramientas de alta rigidez. TIGRA proporciona barras de aleación pesada ya peladas con módulo de Young (módulo elástico) con las que se consigue una gran absorción de la vibración. A pesar de su gran densidad (17g/cm<sup>3</sup>), TIGRAMet es fácil de mecanizar y su tendencia a la flexión es un 40% inferior a la de las herramientas de acero. TIGRAMet está disponible en stock y se ofrece en muchos tamaños.

Sus beneficios:

- gran rigidez
- mínimas vibraciones
- corte a medida disponible
- gran stock
- precios competitivos
- tamaños especiales bajo pedido



## EN TIGRA – Quality Leader worldwide

TIGRA's self-designed, highly automated production machines guarantee 100% optically controlled precision products that are delivered to the customer at an optimal price-performance ratio in a short time. In close co-operation with the tool manufacturers, TIGRA develops optimally coordinated cutting geometries and grades resulting in long tool life and significant cost reductions. No matter if it's about standard or special products: TIGRA is the competent partner for versatile solutions of carbide and ultra-hard cutting materials for a variety of woodworking tools. In order to always meet the application requirements of the customer and to optimize the tool efficiency in the best possible way, TIGRA is placing special emphasis on innovation and continuous improvement in the production of the various cutting inserts.

## DE TIGRA – Weltweiter Qualitätsführer

TIGRA's selbst konstruierte, hoch automatisierte Fertigungsmaschinen garantieren 100% optisch kontrollierte Präzisionsprodukte, die zu einem optimalen Preis-Leistungsverhältnis in kurzer Zeit dem Kunden geliefert werden. In enger Zusammenarbeit mit den Werkzeugherstellern entwickelt TIGRA optimal abgestimmte Schneidgeometrien und -güten, die lange Werkzeugstandwege und erhebliche Kostenreduzierungen mit sich bringen. Ob Standard- oder Sonderartikel: TIGRA ist der kompetente Partner für vielseitige Lösungen aus Hartmetall und ultraharten Schneidstoffen für die verschiedensten Werkzeuge der Holzbearbeitung. Um den Anwendungsbedürfnissen der Kunden stets gerecht zu werden und die Werkzeugeffizienz möglichst zu optimieren, werden Innovation und permanente Verbesserung bei der Fertigung der unterschiedlichsten Schneideinsätze im Hause TIGRA groß geschrieben.

## FR TIGRA - leader mondial en terme de qualité

La société TIGRA conçoit elle-même ses machines de production hautement automatisées. Celles-ci sont le gage de produits de précision faisant l'objet de contrôles visuels 100 %, pour un rapport qualité-prix optimal et un délai de livraison court. En étroite collaboration avec des fabricants d'outils, TIGRA développe des géométries et des qualités de coupe parfaitement ajustées, qui garantissent la longue durée de vie des outils et des réductions considérables des coûts. Produits standards ou spéciaux: TIGRA est votre partenaire compétent pour des solutions de coupe polyvalentes en carbure (métal dur) et en matériaux de coupe ultra-durs pour les outils les plus divers dédiés au travail du bois. Afin de répondre aux exigences d'application du client et optimiser le plus possible l'efficacité de l'outil, TIGRA place au premier plan l'innovation et l'amélioration continue lors de la fabrication des plaquettes de coupe les plus diverses.



## IT TIGRA – Leader mondiale della qualità

Le apparecchiature di produzione costruite dall'azienda stessa ed altamente automatizzate, garantiscono prodotti di precisione controllati al 100% a livello ottico, consegnati al cliente con un ottimo rapporto qualità prezzo e in breve tempo. Collaborando a stretto contatto con i produttori di utensili, TIGRA sviluppa geometrie di taglio e qualità di metallo duro perfettamente sintonizzate l'uno all'altro permettendo agli utensili di durare nel tempo e riducendo notevolmente i costi. Articoli standard o particolari, non c'è differenza: TIGRA è il partner competente per molteplici soluzioni in metallo duro e per materiali da taglio ultraduri per i diversi utensili per la lavorazione del legno. Per soddisfare costantemente le esigenze di applicazione dei clienti e ottimizzare quanto più possibile l'efficienza degli utensili, l'innovazione e il miglioramento nella produzione della vasta gamma di placchette assumono un ruolo di primaria importanza nell'azienda TIGRA.

## ES TIGRA - Líder mundial de calidad

Máquinas TIGRA de diseño propio, altamente automatizadas, garantizan al cliente productos de absoluta precisión controlados ópticamente, una buena relación precio-rendimiento y entregas extraordinariamente rápidas. En estrecha cooperación con los fabricantes de herramientas, TIGRA desarrolla geometrías y calidades de corte que destacan por su prolongada vida útil y que reducen los costes significativamente. TIGRA es el socio competente para las más versátiles soluciones de útiles cortantes en material duro y ultraduro para todo tipo de aplicaciones en el mecanizado de la madera. Para satisfacer las necesidades del cliente y optimizar la eficiencia de las herramientas, TIGRA apuesta por la innovación tecnológica y la mejora continua de sus útiles de corte.





### EN TIGRA – Short portrait of a forward-looking company

TIGRA is a leading supplier of cutting inserts made of tungsten carbide, HSS, TIGRALLOY, PCD and PCBN for wood and metal working tools as well as for tungsten carbide special knives and wear parts. Thanks to the highly automated production and an internationally structured distribution network TIGRA today offers the most extensive product range for woodworking in the global market. No matter if it is chipboard, MDF / HDF or all types of natural woods, TIGRA products made of specially developed carbide grades as well as of other materials such as HSS, PCD, TIGRALLOY ensure optimum tool life, break resistance and best cutting results.

### DE TIGRA – Kurzporträt eines zukunftsorientierten Unternehmens

TIGRA ist ein führender Lieferant von Schneideinsätzen aus Hartmetall, HSS, TIGRALLOY, PKD und PcBN für Holz- und Metallbearbeitungswerkzeuge sowie für Hartmetall-Spezialmesser und -Verschleißteile. Dank der hochautomatisierten Fertigung und einem international strukturierten Vertriebsnetz bietet TIGRA heute das umfangreichste Produktprogramm für die Holzbearbeitung am Weltmarkt an. Ob Spanplatte, MDF/HDF oder alle Arten von natürlichen Hölzern, TIGRAs Produkte aus speziell entwickelten Hartmetallsorten sowie aus weiteren Werkstoffen wie HSS, PKD, TIGRALLOY sorgen für optimale Standwege, Bruchsisicherheit und beste Schnittergebnisse.

### FR TIGRA – Court portrait d'une entreprise tournée vers l'avenir

TIGRA est un fournisseur leader de plaquettes de coupe en métal dur, HSS, TIGRALLOY, PCD et PcBN destinées aux outils de travail du bois et du métal et aux couteaux spéciaux et pièces d'usure en carbure. Grâce à une production automatisée high-tech et un réseau de vente présent à l'international, TIGRA propose aujourd'hui sur le marché mondial une vaste gamme de produits dédiée au travail du bois. Pour les panneaux à particules, MDF/HDF ou d'autres essences de bois naturels, TIGRA développe des produits de coupe en carbure spécial ou autres matériaux tels que le HSS, PCD, TIGRALLOY qui assurent une excellente tenue d'outil, une résistance élevée à la rupture et des résultats de coupe parfaits.





### IT TIGRA - Breve ritratto di un'azienda orientata al futuro

TIGRA è tra i fornitori leader di placchette in metallo duro, HSS, TIGRALLOY, PCD e PcBN per utensili per la lavorazione del legno e del metallo, per coltelli speciali in metallo duro e per il settore usura. Grazie all'elevata automazione nella produzione e ad una rete di vendita internazionale, TIGRA offre oggi la gamma più completa sul mercato mondiale di prodotti per la lavorazione del legno. Sia che si tratti di truciolare, MDF/HDF o di tutte le varietà di legni naturali, i prodotti TIGRA in diversi tipi di metallo duro sviluppati per le specifiche produttive o in altri materiali come HSS, PCD, TIGRALLOY, garantiscono longevità ottimale, resistenza alla rottura e le migliori performance di taglio.

### ES TIGRA – Breve retrato de una empresa con visión de futuro

TIGRA es un proveedor líder de útiles cortantes en metal duro, HSS, TIGRALLOY, PCD y PcBN para el mecanizado del metal y la madera, así como para cuchillas especiales y piezas de desgaste de metal duro. Gracias a la producción altamente automatizada y a una red de distribución internacional, TIGRA ofrece en la actualidad el programa de productos para el mecanizado de la madera más amplio del mercado. Los productos TIGRA, tanto de metal duro especialmente desarrollados como de HSS, PCD y TIGRALLOY aseguran una prolongada vida útil de la herramienta, una excelente resistencia a la rotura y óptimos resultados de corte, sea con aglomerados, como con MDF/HDF o cualquier tipo de madera natural.

EN Tungsten carbide manufacturing  
 DE Hartmetallherstellung



### Powder manufacturing Pulverherstellung

1. Mixing  
 Mischen

2. Milling  
 Mahlen

4. Sieving  
 Sieben

3. Spray drying  
 Sprühtrocknen



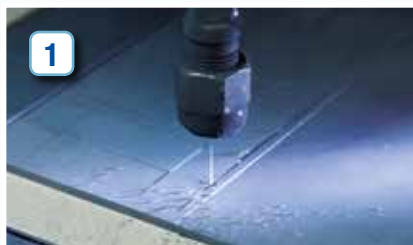
### Pressing Pressen

1. Uniaxial pressing  
 Uniaxiales Pressen

2. Isostatic pressing  
 Isostatisches Pressen

3. Extrusion pressing  
 Strangpressen

4. Injection molding  
 Spritzgießen



### Green carbide processing Grünlingsbearbeitung

1. Cutting  
 Schneiden

2. Drilling  
 Bohren

3. Milling  
 Fräsen

4. Turning  
 Drehen

### Sintering Sintern

1. Pressure sintering  
Drucksintern

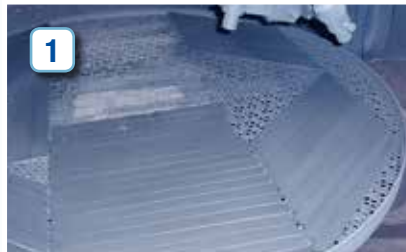
2. Vacuum sintering  
Vakuumsintern



### Surface treatment Oberflächenbehandlung

1. Sand blasting  
Sandstrahlen

2. Coating  
Beschichten



### Grinding Schleifen

1. Flat grinding  
Flachschleifen

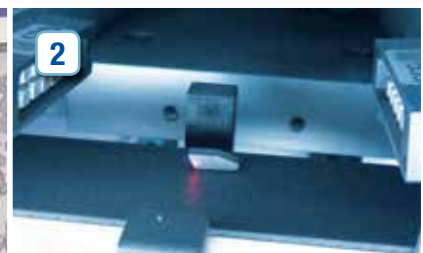
2. Edge grinding  
Umfangschleifen



### Quality control Qualitätskontrolle

1. Analysis  
Analyse

2. Dimensional control  
Maßkontrolle



### Packing and shipping Verpacken und Versenden

1. Packing  
Verpacken

2. Shipping  
Versenden



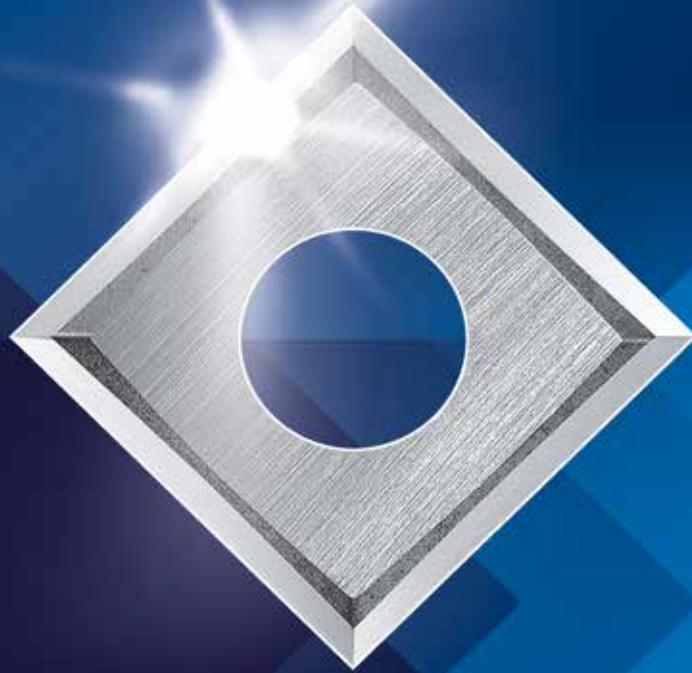




**TIGRA**

TOOLS CUT BETTER WITH TIGRA





- EN Reversible knives and edge rounding knives
- DE Wendeschneidplatten und Kantenrunder
- FR Plaquettes réversibles et couteaux brise-arrête
- IT Coltelli reversibili e spigolatori
- ES Cuchillas reversibles y cuchillas para aristas



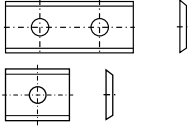
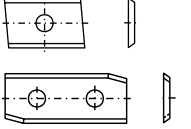
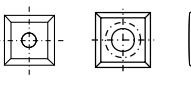
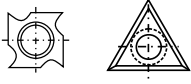
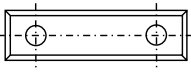
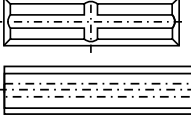
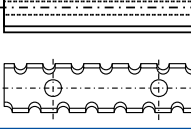
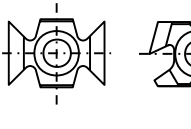


**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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- EN Reversible knives and edge rounding knives  
 DE Wendeschneidplatten und Kantenrunder  
 FR Plaquettes réversibles et couteaux brise-arrête  
 IT Coltelli reversibili e spigolatori  
 ES Cuchillas reversibles y cuchillas para aristas

	<p> <b>EN Standard reversible knives</b> 35° + 45°  <b>DE Standard Wendeschneidplatten</b> 35° + 45°  <b>FR Plaquettes réversibles standard</b> 35° + 45°  <b>IT Coltelli reversibili standard</b> 35° + 45°  <b>ES Cuchillas reversibles standard</b> 35° + 45°         </p>	<p>24 - 26</p>
	<p> <b>EN Reversible knives</b>  <b>DE Wendeschneidplatten</b>  <b>FR Plaquettes réversibles</b>  <b>IT Coltelli reversibili</b>  <b>ES Cuchillas reversibles</b> </p>	<p>27</p>
	<p> <b>EN Square knives</b>  <b>DE Quadratische Wendeschneidplatten</b>  <b>FR Plaquettes réversibles à quatre coupes</b>  <b>IT Coltelli reversibili quadrati</b>  <b>ES Cuchillas reversibles cuadradas</b> </p>	<p>28 - 30</p>
	<p> <b>EN Spurs, grooving knives</b>  <b>DE Vorschneider, Nuter</b>  <b>FR Araseur, couteaux pour rainures</b>  <b>IT Rasanti, coltelli per incastri</b>  <b>ES Incisores, cuchillas para ranura</b> </p>	<p>31</p>
	<p> <b>EN 4 cutting edges / special knives</b>  <b>DE 4 Schneidkanten / Sondermesser</b>  <b>FR 4 tranchants / couteaux spéciaux</b>  <b>IT 4 taglienti / coltelli speciali</b>  <b>ES 4 filos de corté / cuchillas especiales</b> </p>	<p>32</p>
	<p> <b>EN Face groove, back groove and crossgroove</b>  <b>DE Brust-, Rücken- und Quernut</b>  <b>FR Rainure sur grande face, sur petite face et transversal</b>  <b>IT Scanalatura frontale, posteriore e di sicurezza</b>  <b>ES Ranura frontal, de lomo y transversal</b> </p>	<p>33</p>
	<p> <b>EN Systems Leitz, Oertli, KWO/Versofix</b>  <b>DE Systeme Leitz, Oertli, KWO/Versofix</b>  <b>FR Systèmes Leitz, Oertli, KWO/Versofix</b>  <b>IT Sistemi Leitz, Oertli, KWO/Versofix</b>  <b>ES Sistemas Leitz, Oertli, KWO/Versofix</b> </p>	<p>34 - 35</p>
	<p> <b>EN Edge rounding knives</b>  <b>DE Kantenrunder</b>  <b>FR Couteaux brise-arrête</b>  <b>IT Spigolatori</b>  <b>ES Cuchillas para aristas</b> </p>	<p>36</p>

- EN Reversible knives - Carbide grades and their applications  
 DE Wendeschneidplatten - Hartmetallsorten und ihre Anwendungen  
 FR Plaquettes réversibles - Les nuances de carbures et leurs applications  
 IT Coltelli reversibili - I tipi di metallo duro e le loro applicazioni  
 ES Cuchillas reversibles - Calidades de metal duro y sus aplicaciones

EN DE FR IT ES	TIGRA grade TIGRA - Sorte Nuance TIGRA Tipo TIGRA Calidad TIGRA	ISO ISO ISO ISO ISO	USA USA USA Stati Uniti EE.UU.	Hardness Härte Dureté Durezza Durezza	Toughness Zähigkeit Ténacité Tenacità Tenacidad	Bending strength Biegebruchfestigkeit Résistance à la flexion Resistenza flessionale Resistencia a la flexión
	<b>T02MG-CR</b>	<b>K01</b>	<b>C4+++</b>			
	<b>T03SMG</b>	<b>K01</b>	<b>C4++</b>			
	<b>T04MG-CR</b>	<b>K01</b>	<b>C4+</b>			
	<b>T04F-CR</b> UNIVERSAL	<b>K05</b>	<b>C4</b>			
	<b>T05UMG</b>	<b>K01 - K10</b>	<b>C3++</b>			
	<b>T08MF</b>	<b>K30</b>	<b>C2</b>			
	<b>T10MG</b>	<b>K10 - K40</b>	<b>C3+</b>			
	<b>T10MG-W</b>	<b>K10 - K40</b>	<b>C3+</b>			
	<b>T12SMG</b>		<b>C1++</b>			
	<b>TL15*</b>	<b>K10 - K40</b>	<b>C3+</b>			

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo

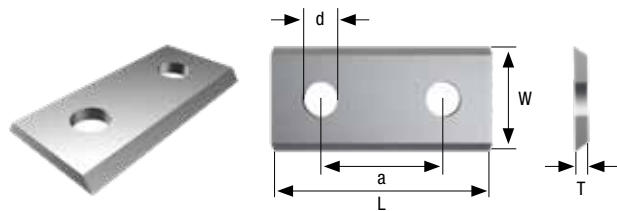
\* Special binder - Spezialbinder - Liant spécial - Legante speciale - Composición especial

EN For technical data, please refer to the pages 4-5.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 4-5.  
 FR Pour les données techniques, veuillez voir aux pages 4-5.

IT Per i dati tecnici, fare riferimento alle pagine 4-5.  
 ES Para los datos técnicos, consulte las páginas 4-5.

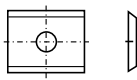
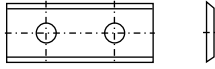
Plastics Plastik Plastiques Plastica Plásticos	HDF HDF HDF HDF HDF	MDF MDF MDF MDF MDF	Chipboard Spanplatte Panneaux de particule Truciolare Panel de aglomerado	Hardwood Hartholz Bois dur Legno duro Madera dura	Softwood Weichholz Bois tendre Legno tenero Madera blanda	Main usage Hauptverwendung Usage principal Usò principale Usò principal
✓	✓	✓	○	☐	☐	EN MDF, HDF DE MDF, HDF FR MDF, HDF IT MDF, HDF ES MDF, HDF
✓	✓	✓	✓	☐	☐	EN Chipboard, MDF DE Spanplatte, MDF FR Panneaux, MDF IT Truciolare, MDF ES Aglomerados, MDF
✓	○	✓	✓	✓	○	EN Tropical wood, very hard wood, chipboard, MDF DE Tropenholz, sehr hartes Holz, Spanplatte, MDF FR Bois tropical, bois très dur, panneaux, MDF IT Legni tropicali, legni molto duri, truciolare, MDF ES Madera tropical, madera muy dura, aglomerado, MDF
✓	○	✓	✓	✓	✓	EN Universal use DE Universeller Einsatz FR Utilisation universelle IT Uso universale ES Uso universal
✓	☐	○	☐	✓	✓	EN Special reversible knives DE Spezial-Wendeschneidplatten FR Plaquettes réversibles spéciales IT Coltelli reversibili speciali ES Cuchillas reversibles especiales
☐	☐	☐	☐	✓	✓	EN Grooving knives DE Nuter FR Couteaux pour rainures IT Coltelli per incastri ES Cuchillas para ranura
○	☐	☐	☐	✓	✓	EN 45° reversible knives, planer knives, softwood DE 45°-Wendeschneidplatten, Hobelkopfplatten, Weichholz FR Plaquettes 45°, couteaux pour outils à raboter, bois tendre IT Coltelli a 45°, coltelli per teste da pialla, legni teneri ES Cuchillas 45°, cuchillas para cepillar, madera blanda
☐	☐	☐	☐	✓	✓	EN Wood, low price demands DE Holz, niedriger Preis FR Bois, prix bas IT Legno, prezzo ridotto ES Madera, precio economico
☐	☐	☐	☐	✓	✓	EN Best surface, high speed cutting (HSC) DE Beste Oberfläche, HSC FR Meilleure surface, HSC IT Migliore superficie, HSC ES Mejor superficie, HSC
○	☐	☐	☐	✓	✓	EN 45° reversible knives, wood with knots, softwood DE 45°-Wendeschneidplatten, Holz mit Ästen, Weichholz FR Plaquettes 45°, bois avec des noeuds, bois tendre IT Coltelli a 45°, legni nodosi, legno tenero ES Cuchillas 45°, madera con nudos, madera blanda



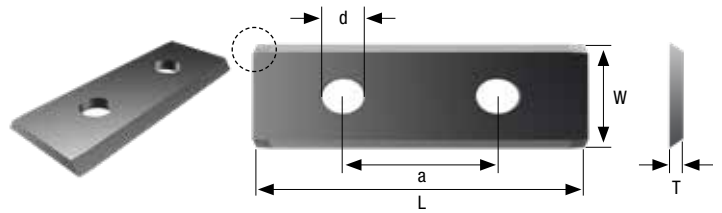


35°

- EN Standard reversible knives
- DE Standard-Wendeschneidplatten
- FR Plaquettes réversibles standard
- IT Coltelli reversibili standard
- ES Cuchillas reversibles standard

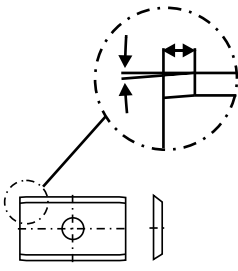
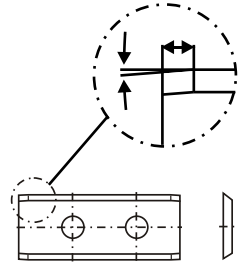
	L mm	W mm	T mm	a mm	T04F-CR	T02MG-CR	T03SMG	T04MG-CR	T10MG	T10MG-W
	7.5	12.0	1.5		012001		013811	106822	013963	142721
	8.6	12.0	1.5		013182					
	9.0	12.0	1.5		012043					
	9.6	12.0	1.5		012015		013850	106823	014010	142722
	10.0	12.0	1.5		013165					
	10.5	12.0	1.5		013167					
	11.0	12.0	1.5		013168					
	11.6	12.0	1.5		013183					
	13.0	12.0	1.5		013170					
	13.6	12.0	1.5		013185					
	14.6	12.0	1.5		013186					
	15.0	12.0	1.5		012003	152433	013819	106824	013972	142723
	15.7	12.0	1.5		013172					
	16.0	12.0	1.5		013203					
	17.0	12.0	1.5		013173					
	18.0	12.0	1.5		013174					
	19.0	12.0	1.5		013175					
20.0	12.0	1.5		012004	152434	013823	104796	013977	127452	
25.0	12.0	1.5		012025		013853	106826	014013	142975	
	25.0	12.0	1.5	14.0	012011		013843	106827	014001	152428
	30.0	12.0	1.5	14.0	012005	152435	013828	104795	013982	125424
	35.0	12.0	1.5	26.0	013208					
	40.0	12.0	1.5	26.0	012014	152436	013847	106828	014006	127453
	50.0	12.0	1.5	26.0	012006	152437	013834	106829	013987	125425
	60.0	12.0	1.5	26.0	012007	152438	013839	106830	013994	127454

	L mm	W mm	T mm	a mm	T08MF	T03SMG	T04MG-CR	T10MG	T10MG-W
	80.0	13.0	2.2	60.0	012008	013841	106831	013997	152430
	100.0	13.0	2.2	60.0	012009	030831	106832	013998	152431
	120.0	13.0	2.2	60.0	012010	030832	106833	013999	152432

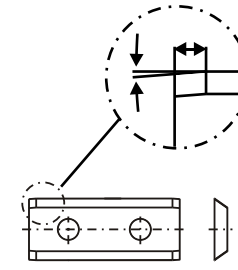


EN Reversible knives  
 DE Wendeschneidplatten  
 FR Plaquettes réversibles  
 IT Coltelli reversibili  
 ES Cuchillas reversibles

For use in planer heads!  
 Für Hobelköpfe!

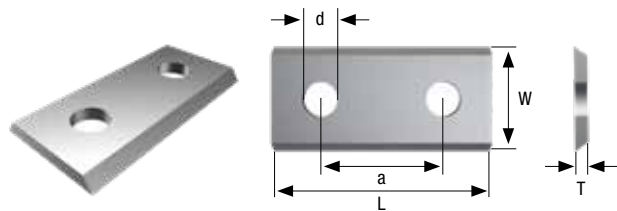
	L mm	W mm	T mm		T04F-CR	T04MG-CR	T10MG
	20.0	12.0	1.5	35°		106674	013979
	20.0*	12.0	1.5	45°			041948
	24.0	12.0	1.5	40°	104119	106675	041060
	24.7	12.0	1.5	35°	104120	106676	
	30.0	12.0	1.5	35°	112875	106677	013984
	50.0	12.0	1.5	35°			013989

	L mm	W mm	T mm		T04F-CR
	30.0	12.0	2.5	35°	054259

	L mm	W mm	T mm		T04F-CR
	30.0	12.0	2.5	35°	102283

\* EN System Hundegger  
 \* DE System Hundegger  
 \* FR Système Hundegger  
 \* IT Sistema Hundegger  
 \* ES Sistema Hundegger

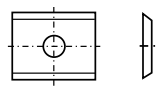
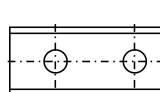





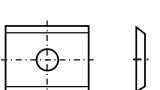
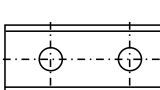

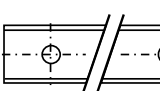
EN Reversible knives  
 DE Wendeschneidplatten  
 FR Plaquettes réversibles  
 IT Coltelli reversibili  
 ES Cuchillas reversibles

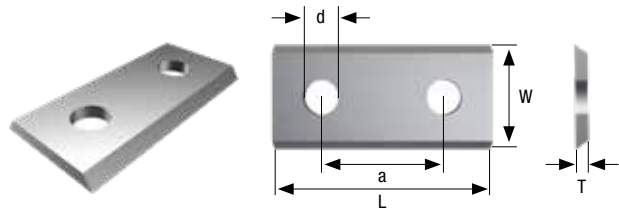
**45°**

**POLISHED**

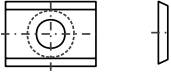
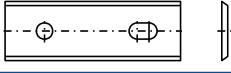
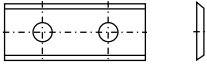

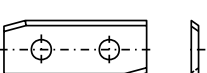

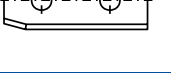
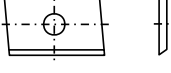

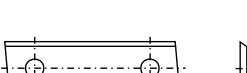
	L mm	W mm	T mm	a mm		T10MG
	7.5	12.0	1.5		45°	014093
	9.6	12.0	1.5		45°	014117
	15.0	12.0	1.5		45°	014099
	20.0	12.0	1.5		45°	014101
	25.0	12.0	1.5		45°	014124
	25.0	12.0	1.5	14.0	45°	014111
	30.0	12.0	1.5	14.0	45°	014103
	40.0	12.0	1.5	26.0	45°	014114
	50.0	12.0	1.5	26.0	45°	014106
	60.0	12.0	1.5	26.0	45°	014108
	12.0	12.0	1.5		45°	014097

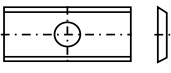
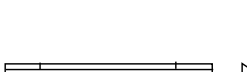
**NOT POLISHED**

	L mm	W mm	T mm	a mm		T08MF	T10MG
	7.5	12.0	1.5		45°		014091
	9.6	12.0	1.5		45°		014115
	15.0	12.0	1.5		45°		014098
	20.0	12.0	1.5		45°		014100
	25.0	12.0	1.5		45°		014123
	25.0	12.0	1.5	14.0	45°		014110
	30.0	12.0	1.5	14.0	45°		014102
	40.0	12.0	1.5	26.0	45°		014113
	50.0	12.0	1.5	26.0	45°		014105
	60.0	12.0	1.5	26.0	45°		014107
	12.0	12.0	1.5		45°		014096
	80.0	13.0	2.2	60.0	45°	013532	038233

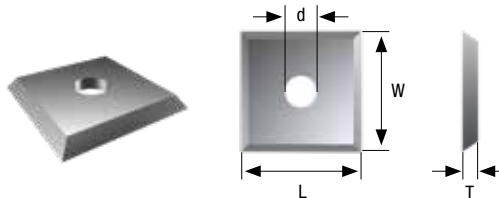


EN Reversible knives  
 DE Wendeschneidplatten  
 FR Plaquettes réversibles  
 IT Coltelli reversibili  
 ES Cuchillas reversibles

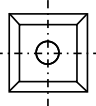
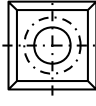
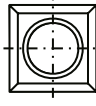
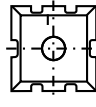
	L mm	W mm	T mm	a mm	T04F-CR
	20.0	14.3	2.5		013730
	44.5	15.0	1.5	25.0	013447
	30.0	12.0	1.5	16.0	013449
	24.0	12.0	1.5		013241
	30.0 50.0	12.0 12.0	1.5 1.5	14.0 26.0	013430 013432
	30.0 50.0	12.0 12.0	1.5 1.5	14.0 26.0	013431 013433
	20.0	12.0	1.5		013436
	20.0	12.0	1.5		013441
	30.0 40.0 50.0	12.0 12.0 12.0	1.5 1.5 1.5	14.0 26.0 26.0	013437 013440 013438
	30.0 40.0 50.0	12.0 12.0 12.0	1.5 1.5 1.5	14.0 26.0 26.0	013442 013445 013443

	L mm	W mm	T mm	a mm	T04F-CR
	20.0	9.0	1.5		013195
	30.0 40.0 50.0	9.0 9.0 9.0	1.5 1.5 1.5	14.0 26.0 26.0	013199 013200 013201





- EN Square knives  
 DE Quadratische Wendeschneidplatten  
 FR Plaquettes réversibles à quatre coupes  
 IT Coltelli reversibili quadrati  
 ES Cuchillas reversibles cuadradas

	L	W	T		d	T08MF	T04F-CR	T02MG-CR	T03SMG	T04MG-CR	T10MG	T10MG-W
	mm	mm	mm		mm							
	9.0	9.0	1.5	35°	4.0		100744					
	10.5	10.5	1.5	35°	4.0		013259		013863			
	12.0	12.0	1.5	35°	4.0		012002	152441	013815	106835	013968	140093
	13.0	13.0	2.5	35°	4.0	013328						
	17.0	17.0	2.0	35°	3.0	016565	016564					
	17.0	17.0	2.0	35°	4.0	013266	013265		013864	106836	030830	
	19.0	19.0	2.0	35°	4.0		013264					
		10.5	10.5	1.5	35°						106682	
13.0		13.0	2.5	30°		013324						
13.6		13.6	2.0	30°		013299						
13.6		13.6	2.0	45°		037522						
14.0		14.0	1.2	30°		013295						
14.0		14.0	1.7	22°		013297						
14.0		14.0	1.7	30°		013307						
14.0		14.0	2.0	30°		013273	013260	152442	013865	102558	014028	140094
 <p>For Holz-Her system*</p>	14.0	14.0	1.2	30°		013303						
	15.0	15.0	2.0			013322						

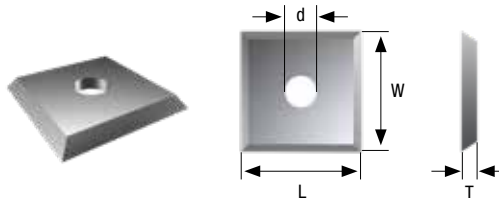
\* EN For use in Holz-Her cutterheads only

\* DE Nur zur Verwendung in Messerköpfen der Firma Holz-Her

\* FR Utilisation limitée aux porte outils de l'entreprise Holz-Her

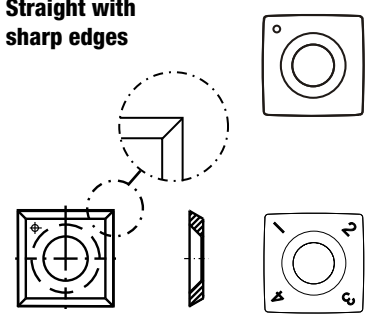
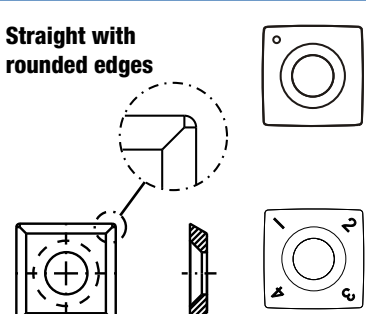
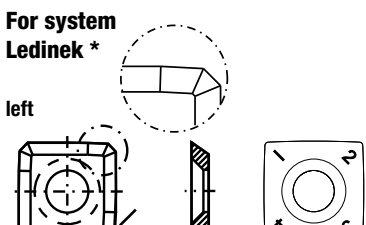

\* IT Da usare solo su teste portacoltelli della Holz-Her


\* ES Sólo para empleo con portacuchillas de la firma Holz-Her



- EN Square knives  
 DE Quadratische Wendeschneidplatten  
 FR Plaquettes réversibles à quatre coupes  
 IT Coltelli reversibili quadrati  
 ES Cuchillas reversibles cuadradas

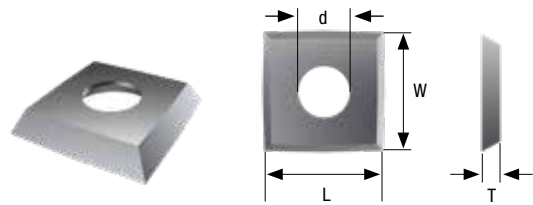
For use in planer heads!  
 Für Hobelköpfe!

		L	W	T		T08MF	T04F-CR	T10MG	T04MG-CR	TL15	T10MG-W
		mm	mm	mm							
<b>Straight with sharp edges</b> 		10.5	10.5	1.5	35°				106682	040343	
		14.0	14.0	2.0	30°	013273	013260	014028	102558	013771	140094
		14.0	14.0	2.0	37°	104295		104900			
		14.3	14.3	2.5	35°			013329	106683		
		14.6	14.6	2.5	30°			013314	106684		
		15.0	15.0	2.5	30°			013315	106685		152429
		15.0	15.0	2.5	37°			104062			
	<b>Straight with rounded edges</b> 		14.0	14.0	2.0	30°	013276		104117		
			14.6	14.6	2.5	30°			013316		
			15.0	15.0	2.5	30°			104118		
		15.0	15.0	2.5	37°			109384			
<b>For system Ledinek *</b> <b>left</b>  <b>right</b> 		14.3	14.3	2.5	35°			053589			
		14.3	14.3	2.5	35°			053590			

		L	W	T		T08MF	T04F-CR	T10MG	T04MG-CR	TL20	T10MG-W
		mm	mm	mm							
		21.0	21.0	5.5	40°			022695		142724	140092

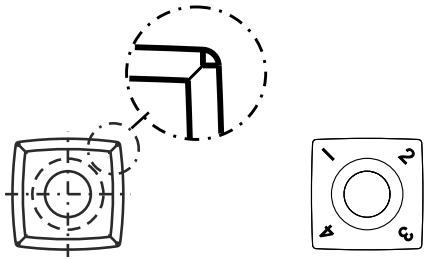
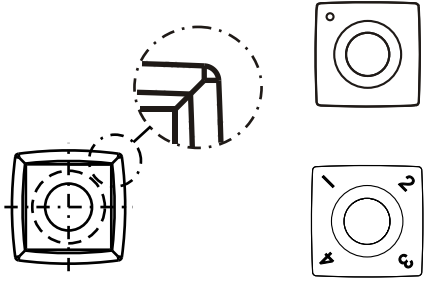
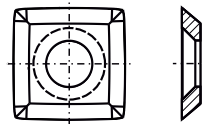
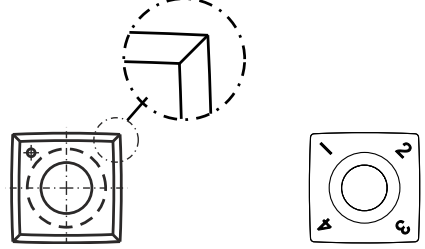
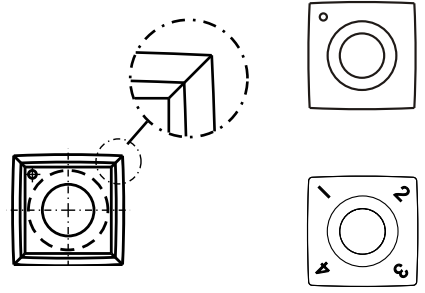
\* EN For use in Ledinek-cutterheads only  
 \* DE Nur zur Verwendung in Messerköpfen der Firma Ledinek  
 \* FR Utilisation limitée aux porte outils de l'entreprise Ledinek  
 \* IT Da usare solo su teste portacoltelli della Ledinek  
 \* ES Sólo para empleo con portacuchillas de la firma Ledinek

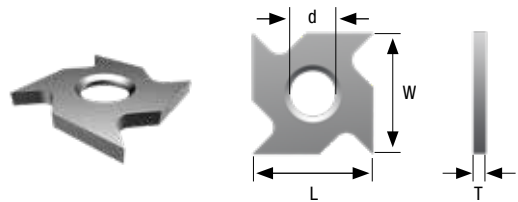




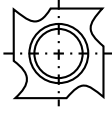




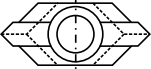
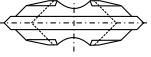
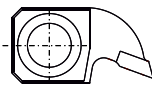
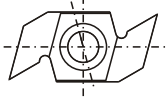
- EN Square knives
- DE Quadratische Wendeschneidplatten
- FR Plaquettes réversibles à quatre coupes
- IT Coltelli reversibili quadrati
- ES Cuchillas reversibles cuadradas

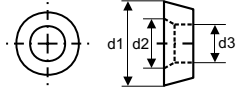
For use in planer heads!  
Für Hobelköpfe!

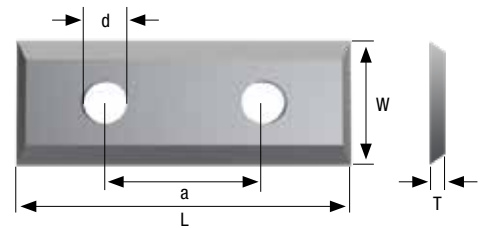
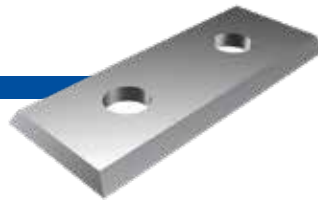
	L	W	T	R		T10MG	T10MG-W
	mm	mm	mm				
<b>Cutting edge with radius and rounded edges</b> 	11.0	11.0	1.5	R=50	40°	140519	
	15.0	15.0	2.5	R=150	30°	101540	140096
	15.0	15.0	2.5	R=115	30°	115179	
	14.0	14.0	2.0	R=150	30°	100788	
	13.8	13.8	2.5	R=40	30°	147954	
	14.6	14.6	2.5	R=150	30°	052673	
	15.0	15.0	2.5	R=50	30°	043895	140095
	15.0	15.0	2.5	R=180	30°	129329	
	15.0	15.0	2.5	R=200	30°	118997	
	15.0	15.0	2.5	R=200	30°	130828	
	15.0	15.0	2.5	R=170	40°	130366	
	15.0	15.0	2.5	R=190	40°	147537	
<b>Cutting edge with radius and pointed edges</b> 	15.0	15.0	2.5	R=95	30°	148426	
	15.0	15.0	2.5	R=95	37°	148427	
	15.0	15.0	2.5	R=150	30°	100791	
	15.0	15.0	2.5	R=100	40°	144107	
	15.0	15.0	2.5	R=100	30°	101180	
	14.0	14.0	2.0	R=150	30°	100789	
	14.6	14.6	2.5	R=150	30°	100790	
	15.0	15.0	2.5	R=50	30°	101044	



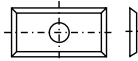
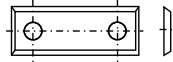

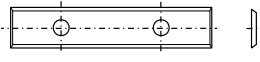
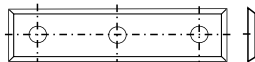
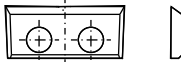
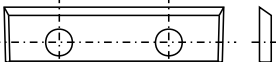
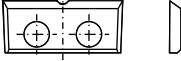
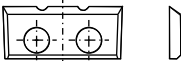
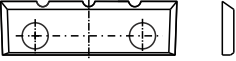
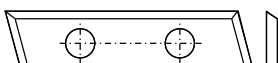
EN Spurs, grooving knives  
 DE Vorschneider, Nuter  
 FR Araseur, couteaux pour rainures  
 IT Rasanti, coltelli per scanalature  
 ES Incisores, cuchillas para ranura

	L mm	W mm	T mm		d mm	T08MF	T04F-CR	T06MF	T10MG
	18.0	18.0	1.95			013293			
	18.0	18.0	2.45			013291			
	18.0	18.0	2.95			013305			
	18.0	18.0	3.70			013289			
	22.9	19.8	2.5	30°		045180			
	22.0 (22.0)	19.0 (22.0)	2.0 (2.0)	30°		013271			
	14.0	28.0	2.0	30°		013258			
	16.0	16.0	3.0	32°		030829			
	18.5		3.25	30°					017190
	33.5				3.0	013252			
	18.9	7.9	4.0			013253			
	18.0	5.7	3.5				013255		
	24.5	13.0	4.0					053640	
	24.5	13.0	5.0					053641	
	24.5	13.0	6.0					053642	
	34.0	16.0	4.0					013278	
	34.0	16.0	5.0					013279	
	34.0	16.0	6.0					013280	
	34.0	16.0	7.0					013281	

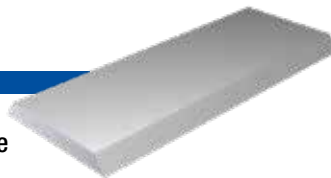
	d1 mm	d2 mm	d3 mm	T mm		T03SMG
	11.0	7.0	5.1	4.0		013373



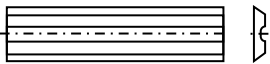
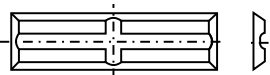
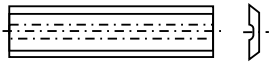
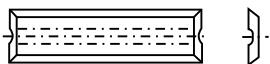
- EN 4 cutting edges / special knives
- DE 4 Schneidkanten / Sondermesser
- FR 4 tranchants / couteaux spéciaux
- IT 4 taglienti / coltelli speciali
- ES 4 filas de corte / cuchillas especiales

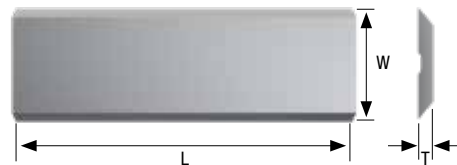
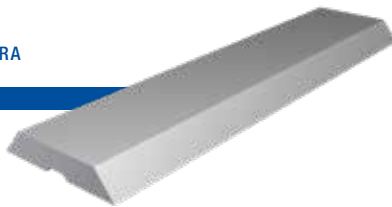
	L mm	W mm	T mm	a mm	T04F-CR	T02MG-CR	T03SMG	T10MG
	19.5	7.0	1.5		013492			
	19.5	7.5	1.5		013493			
	19.5	8.0	1.5		013494			
	19.5	9.0	1.5		013495			
	19.5	10.0	1.5		013496			
	19.5	11.0	1.5		013497			
	19.5	12.0	1.5		013498	152443	013947	
	29.5	7.0	1.5	14.0	013501			
	29.5	7.5	1.5	14.0	013502			
	29.5	8.0	1.5	14.0	013503	152444		
	29.5	9.0	1.5	14.0	013504			
	29.5	10.0	1.5	14.0	013505			
	29.5	11.0	1.5	14.0	013506			
	29.5	12.0	1.5	14.0	013507	152445	013952	014088
	39.5	9.0	1.5	26.0	013511	152446	045134	
	39.5	12.0	1.5	26.0	013512	152447	013954	
	49.5	8.0	1.5	26.0	013516			
	49.5	9.0	1.5	26.0	013517	152448	013956	
	49.5	10.0	1.5	26.0	013518			
	49.5	12.0	1.5	26.0	013520	152449	013957	014090
	59.5	12.0	1.5	26.0	013523			
	50.0	9.0	1.5	37.0	016950		035425	
	50.0	12.0	1.7	37.0	013327	152450	013866	014030
	16.0	7.0	1.5	7.0	016934		016933	
	23.0	7.0	1.5	14.0	053449			
	28.0	7.0	1.5	14.0	016823	152451	016822	
	16.0	7.0	1.5	7.0	048995			
	16.0	7.0	1.5	7.0	048996			
	23.0	7.0	1.5	14.0	106866			
	23.0	7.0	1.5	14.0	106867			
	31.5	9.0	1.5	14.0	109149			





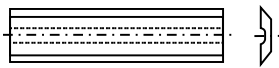
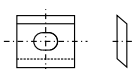
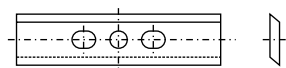
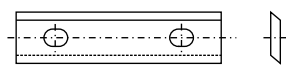
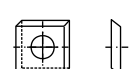
- EN Face groove, back groove and crossgroove  
 DE Brust-, Rücken- und Quernut  
 FR Rainure sur grande face, sur petite face et transversal  
 IT Scanalatura frontale, posteriore e di sicurezza  
 ES Ranura frontal, de lomo y transversal

	L mm	W mm	T mm	T04F-CR	T03SMG	Style
	20.0	5.5	1.1	013357		EN Back groove DE Rückennut FR Rainure sur petite face IT Scanalatura posteriore ES Ranura de lomo
	30.0	5.5	1.1	013363		
	40.0	5.5	1.1	013359		
	50.0	5.5	1.1	013361		
	20.0	4.1	1.1	013403		EN Back and crossgroove DE Rücken- und Quernut FR Rainure transversale IT Scanalatura di sicurezza ES Ranura transversal
	20.0	5.5	1.1	013394	013911	
	25.0	5.5	1.1	013402	013920	
	30.0	5.5	1.1	013397	013914	
	40.0	5.5	1.1	013399		
	50.0	5.5	1.1	013401	013918	
	12.0	5.5	1.1	013334	013870	EN Face groove DE Brustnut FR Rainure sur grande face IT Scanalatura frontale ES Ranura frontal
	20.0	5.5	1.1	013336		
	30.0	5.5	1.1	013345	013880	
	40.0	5.5	1.1	013339		
	50.0	5.5	1.1	013342	013877	
	20.0	5.5	1.1	013378		EN 4 Cutting edges DE 4 Schneidkanten FR 4 Tranchants IT 4 Taglienti ES 4 Filos de corte
	25.0	5.5	1.1	013376		
	30.0	5.5	1.1	013379		
	35.0	5.5	1.1	013377	013893	
	40.0	5.5	1.1	013380		
	44.5	5.5	1.1	013375	030873	
	50.0	5.5	1.1	013381	013900	

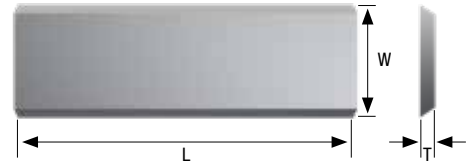
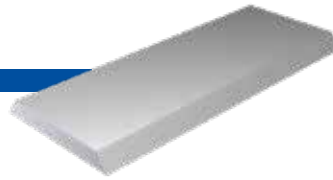


EN Systems Leitz, Oertli  
 DE Systeme Leitz, Oertli  
 FR Systèmes Leitz, Oertli  
 IT Sistemi Leitz, Oertli  
 ES Sistemas Leitz, Oertli

For Systems Leitz and Oertli

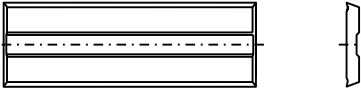
For Leitz system*	L mm	W mm	T mm	T04F-CR Microfinish	T10MG Microfinish	T12SMG Microfinish
	7.7	8.0	1.5	142707	014042	142648
	9.7	8.0	1.5	142708	014066	142649
	11.7	8.0	1.5	142709	014044	142650
	14.7	8.0	1.5	129343	014046	142651
	19.7	8.0	1.5	142710	014048	142653
	24.7	8.0	1.5	142711	014069	142654
	30.0	8.0	1.5	142712	014050	142656
	35.0	8.0	1.5	142713	014052	142657
	40.0	8.0	1.5	142714	129364	142658
	45.0	8.0	1.5	142715	129365	142659
	50.0	8.0	1.5	142716	014056	142660
	60.0	8.0	1.5	142717	014058	142661
	70.0	8.0	1.5	142718	129368	142662
	80.0	8.0	1.5	038329	014060	142663
	100.0	8.0	1.5	142719	014062	142664
	120.0	8.0	1.5	142720	014064	142665
	150.0	8.0	1.5	137028	131896	140017
	160.0	8.0	1.5	134774	102329	141256
	180.0	8.0	1.5	137029	129591	140303
	240.0	8.0	1.5	137030	129593	140304
260.0	8.0	1.5	134775	134540	141257	
For Oertli system*	L mm	W mm	T mm	T04F-CR	T10MG	
	8.8	8.0	1.5	030931		
	9.0	8.0	1.5	030932		
	9.5	8.0	1.5	030933		
	11.0	8.0	1.5	030934		
	12.0	8.0	1.5	030935		
	15.0	8.0	1.5	030936	017198	
	20.0	8.0	1.5	030937	017200	
25.0	8.0	1.5	030938	017201		
	32.0	8.0	1.5	030940	017203	
	40.0	8.0	1.5	030941	017204	
	50.0	8.0	1.5	030942	017206	
	60.0	8.0	1.5	030943	017207	
	80.0	8.0	1.5	030944	017209	
	100.0	8.0	1.5	030945	017210	
	12.0	12.0	1.5	034294	034295	

EN For use in Leitz/Oertli-cutterheads only  
 DE Nur zur Verwendung in Messerköpfen der Firma Leitz bzw. Oertli  
 FR Utilisation limitée aux porte outils des entreprises Leitz et Oertli  
 IT Da usare solo su teste portacoltelli della Leitz - Oertli  
 ES Sólo para empleo con portacuchillas de la firma Leitz/Oertli



EN System KWO/Versofix  
 DE System KWO/Versofix  
 FR Système KWO/Versofix  
 IT Sistema KWO/Versofix  
 ES Sistema KWO/Versofix

For SystemKWO/Versofix

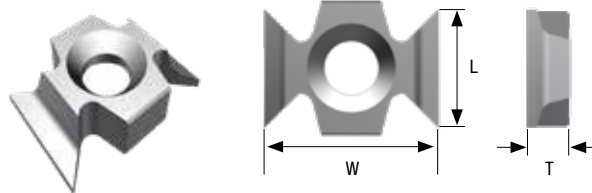
For KWO/Versofix system*	L mm	W mm	T mm	T03SMG	T10MG
				TIN-coated	TIN-coated
	20.0	5.5	1.1	049525	049526
	30.0	6.5	1.1	101074	101075
	50.0	6.5	1.1	101078	101079
	20.0	10.0	1.5	014273	030841
	30.0	10.0	1.5	014275	030842
	50.0	10.0	1.5	014277	030843

EN Reversible knives with chip breakers  
 DE Wendeschneidplatten mit Spanbrechernuten  
 FR Plaquettes réversibles avec brise copeaux  
 IT Coltellini con rompitruciolo  
 ES Cuchillas reversibles con rompevirutas

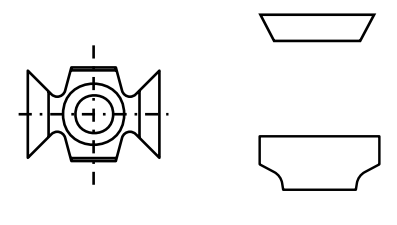
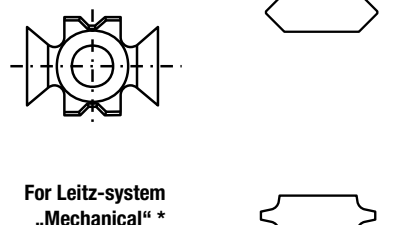
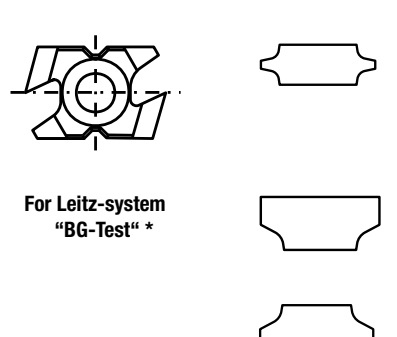


L mm	W mm	T mm	a mm	T04F-CR
30.0	12.0	1.5	14.0	013117
50.0	12.0	1.5	26.0	013127
60.0	12.0	1.5	26.0	108318





EN Edge rounding knives  
 DE Kantenrunder  
 FR Couteaux brise-arrête  
 IT Spigolatori  
 ES Cuchillas para aristas

		L mm	W mm	T mm	Type	T10MG
		16.0	22.0	5.0	TKM 45°	032292
		16.0	22.0	5.0	TKM R 1.5	032294
		16.0	22.0	5.0	TKM R 2.0	032295
		16.0	22.0	5.0	TKM R 2.5	032296
		16.0	22.0	5.0	TKM R 3.0	032297
		16.0	22.0	5.0	TKM R 4.0	032299
		16.0	22.0	6.0	TKM R 5.0	032301
 For Leitz-system „Mechanical“ *		15.0	20.0	8.0	TKM 11/0 - 45°	032304
		15.0	22.3	9.0	TKM 12/0 R3	032306
		15.0	20.0	7.3	TKM 12/3 R2	032308
		15.0	20.0	7.0	TKM 12/4 R1.5	032310
 For Leitz-system “BG-Test“ *		15.0	23.0	8.0	TKM 21/0 - 45°	032316
		15.0	23.0	9.0	TKM 22/0 R3	032318
		15.0	23.0	7.3	TKM 22/3 R2	032320
		15.0	25.7	7.3	TKM 24/0 R5	032327
		15.0	25.7	7.3	TKM 24/1 R5	032326



**TIGRA**

TOOLS CUT BETTER WITH TIGRA







**TIGRA**

TOOLS CUT BETTER WITH TIGRA





- EN Blanks for profiling and radius knives
- DE Blanketts zum Profilieren und Radienplatten
- FR Plaquettes à profiler et plaquettes profilées
- IT Placchette da profilare e placchette profilate
- ES Placas para perfilar y perfiladas

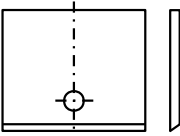
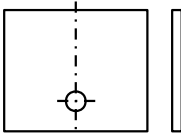
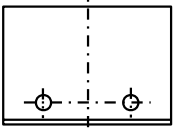
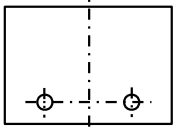
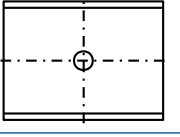
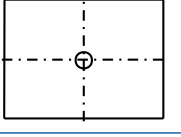
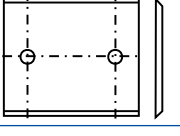
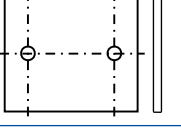
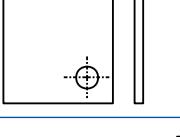
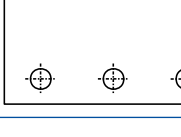
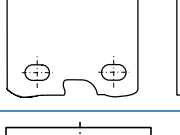
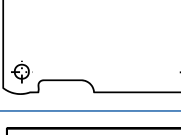
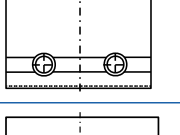
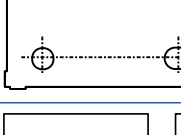
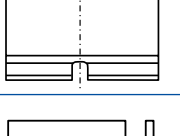

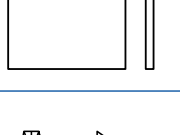

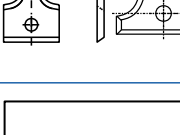
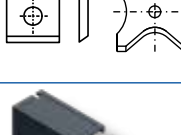
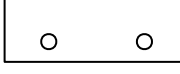



**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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- EN Blanks for profiling and radius knives  
 DE Blanketts zum Profilieren und Radienplatten  
 FR Plaquettes à profiler et plaquettes profilées  
 IT Placchette da profilare e placchette profilate  
 ES Placas para perfilar y perfiladas

 	<p>           EN With 1 bore hole at the bottom            DE Mit 1 Bohrung unten            FR Avec 1 trou en bas            IT Con 1 foro basso            ES Con 1 taladro abajo         </p>	<p>44 - 46</p>
 	<p>           EN With 2 bore holes at the bottom            DE Mit 2 Bohrungen unten            FR Avec 2 trous en bas            IT Con 2 fori bassi            ES Con 2 taladros abajo         </p>	<p>47 - 51</p>
 	<p>           EN With 1 bore hole in the center            DE Mit 1 Bohrung mittig            FR Avec 1 trou au centre            IT Con 1 foro centrale            ES Con 1 taladro en el centro         </p>	<p>52</p>
 	<p>           EN With 2 bore holes in the center            DE Mit 2 Bohrungen mittig            FR Avec 2 trous au centre            IT Con 2 fori centrali            ES Placas con 2 taladros en el centro         </p>	<p>53 - 54</p>
 	<p>           EN Special blanks for profiling            DE Spezial-Blanketts zum Profilieren            FR Plaquettes spéciales à profiler            IT Placchette speciali da profilare            ES Placas especiales para perfilar         </p>	<p>55</p>
 	<p>           EN Superprofiler            DE Superprofiler            FR Superprofiler            IT Superprofiler            ES Superprofiler         </p>	<p>56 - 57</p>
 	<p>           EN Systems Freud / Leuco / Oertli, with crossgroove            DE Systeme Freud / Leuco / Oertli, mit Quernut            FR Systèmes Freud / Leuco / Oertli, avec rainure transversale            IT Sistemi Freud / Leuco / Oertli, con scanalatura            ES Sistemas Freud / Leuco / Oertli, con ranura transversal         </p>	<p>58 - 60</p>
 	<p>           EN System Profilcut, with crossgroove            DE System Profilcut, mit Quernut            FR Système Profilcut, avec rainure transversale            IT Sistema Profilcut, con scanalatura            ES Sistema Profilcut, con ranura transversal         </p>	<p>61 - 63</p>
 	<p>           EN Without bores            DE Ohne Bohrung            FR Sans trous            IT Senza fori            ES Sin taladro         </p>	<p>63 - 64</p>
 	<p>           EN Profiled &amp; preprofiled standard blanks            DE Profilierte und vorprofilierte Standardblanketts            FR Plaquettes standard profilées &amp; préprofilées            IT Placchette profilate &amp; presagomate standard            ES Placas perfiladas &amp; preperfiladas standard         </p>	<p>65 - 68</p>
 	<p>           EN Backing plates &amp; packing            DE Stützplatten &amp; Verpackungen            FR Supports &amp; emballages            IT Supporti &amp; imballi            ES Placas de soporte &amp; embalaje         </p>	<p>69 - 70</p>

- EN Blanks for profiling and radius knives - Carbide grades and their applications  
 DE Blanketts zum Profilieren und Radienplatten - Hartmetallsorten und ihre Anwendungen  
 FR Plaquettes à profiler et plaquettes profilées - Les nuances de carbures et leurs applications  
 IT Placchette da profilare e placchette profilate - I tipi di metallo duro e le loro applicazioni  
 ES Placas para perfilar y perfiladas - Calidades de metal duro y sus aplicaciones

EN	TIGRA grade	ISO	USA	Hardness	Toughness	Bending strength
DE	TIGRA - Sorte	ISO	USA	Härte	Zähigkeit	Biegebruchfestigkeit
FR	Nuance TIGRA	ISO	USA	Dureté	Ténacité	Résistance à la flexion
IT	Tipo TIGRA	ISO	Stati uniti	Durezza	Tenacità	Resistenza flessionale
ES	Calidad TIGRA	ISO	EE.UU.	Dureza	Tenacidad	Resistencia a la flexión
	<b>T03SMG</b>	<b>K01</b>	<b>C4++</b>			
	<b>T04MG-CR</b>	<b>K01</b>	<b>C4+</b>			
	<b>T04F-CR</b> UNIVERSAL	<b>K05</b>	<b>C4</b>			
	<b>T10MG</b>	<b>K10 - K40</b>	<b>C3+</b>			
	<b>TL15*</b>	<b>K10 - K40</b>	<b>C3+</b>			
	<b>TL20*</b>	<b>K10 - K40</b>	<b>C3+</b>			

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo

\* Special binder - Spezialbinder - Liant spécial - Legante speciale - Composición especial

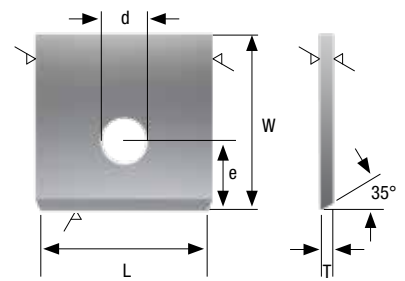
EN For technical data, please refer to the pages 4-5.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 4-5.  
 FR Pour les données techniques, veuillez voir aux pages 4-5.

IT Per i dati tecnici, fare riferimento alle pagine 4-5.  
 ES Para los datos técnicos, consulte las páginas 4-5.



Plastics Plastik Plastiques Plastica Plásticos	HDF HDF HDF HDF HDF	MDF MDF MDF MDF MDF	Chipboard Spanplatte Panneaux de particule Truciolare Panel de aglomerado	Hardwood Hartholz Bois dur Legno duro Madera dura	Softwood Weichholz Bois tendre Legno tenero Madera blanda	Main usage Hauptverwendung Usage principal Usos principales Usos principales
✓	✓	✓	✓	○	☐	EN Man-made materials DE Künstlich hergestellte Materialien FR Matériaux synthétiques IT Materiali artificiali ES Materiales sintéticos
✓	○	✓	✓	✓	☐	EN Tropical, abrasive hard woods; chipboard DE Tropische, abrasive Harthölzer; Spanplatte FR Tropical, abrasif bois durs; panneaux IT Legni duri tropicali, abrasivi; truciolare ES Tropical, maderas duras abrasivas; aglomerado
✓	○	✓	✓	✓	✓	EN Universal use DE Universeller Einsatz FR Usage universel IT Uso universale ES Uso universal
○	☐	☐	☐	✓	✓	EN Natural wood, window tooling DE Naturholz, Fensterwerkzeuge FR Bois naturel, outillage de fenêtre IT Legni naturali, utensili per finestre ES Madera natural, utillaje de ventana
☐	☐	☐	☐	✓	✓	EN Wood with knots, high clearance angles DE Holz mit Ästen, große Freiwinkel FR Bois avec des noeuds, grands angles de dépouille IT Legni nodosi, ampi angoli di spoglia ES Madera con nudos, ángulos largos
☐	☐	☐	☐	✓	✓	EN Northern European soft woods DE Nordeuropäische Weichhölzer FR Bois tendre d'Europe du Nord IT Legni teneri del Nord Europa ES Madera blanda del norte de Europa

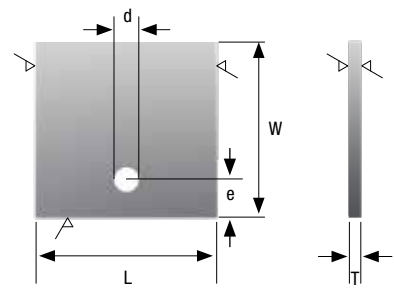
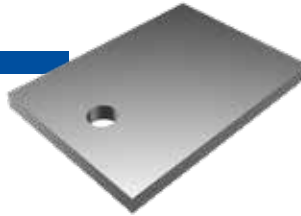
- ✓ best performance
- very good performance
- acceptable
- ☐ not suitable



EN With 1 bore hole at the bottom  
 DE Mit 1 Bohrung unten  
 FR Avec 1 trou en bas  
 IT Con 1 foro basso  
 ES Con 1 taladro abajo

- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
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L mm	W mm	T mm	d mm	e mm	T04F-CR	T04MG-CR	T10MG
15.0	15.4	2.0	4.1	6.3	014535	106450	030950
15.0	20.4	2.0	4.1	6.3	014553	106467	014559
15.0	25.4	2.0	4.1	6.3	014573	106453	014577
15.0	30.4	2.0	4.1	6.3	014590	106454	014595
15.8	30.4	2.0	4.1	6.3	014598	106455	014601
16.0	20.4	2.0	4.1	6.3	014609	106470	030955
19.8	30.4	2.0	4.1	6.3	014614	106456	014616
20.0	20.4	2.0	4.1	6.3	014648	104857	014655
20.0	25.4	2.0	4.1	6.3	014684	104858	014692
20.0	30.4	2.0	4.1	6.3	014723	104629	014729
20.0	35.4	2.0	4.1	6.3	014750	104711	014756
20.0	40.4	2.0	4.1	6.3	014768	106457	030960
25.0	20.4	2.0	4.1	6.3	014783	106458	014789
25.0	25.4	2.0	4.1	6.3	014812	104663	014819
25.0	30.4	2.0	4.1	6.3	014848	105103	014856
25.0	35.4	2.0	4.1	6.3	014880	106095	014887
30.0	20.4	2.0	4.1	6.3	014917	106460	014922
30.0	25.4	2.0	4.1	6.3	014970	104664	014980
30.0	30.4	2.0	4.1	6.3	015045	105255	015054
30.0	35.4	2.0	4.1	6.3	015104	106461	015113
30.0	40.4	2.0	4.1	6.3	015148	106463	015154
35.0	20.4	2.0	4.1	6.3	015261	106465	015265
35.0	25.4	2.0	4.1	6.3	015286	104922	015290
35.0	30.4	2.0	4.1	6.3	015334	106466	015339
35.0	35.4	2.0	4.1	6.3	015368	105510	015372
35.0	40.4	2.0	4.1	6.3	015398	105203	015403

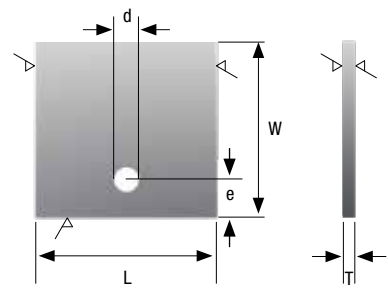
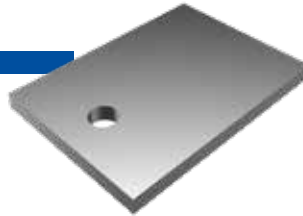


EN With 1 bore hole at the bottom  
 DE Mit 1 Bohrung unten  
 FR Avec 1 trou en bas  
 IT Con 1 foro basso  
 ES Con 1 taladro abajo

- EN Blanks for profiling
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L mm	W mm	T mm	d mm	e mm	T04F-CR	T04MG-CR	T10MG
15.0	15.4	2.0	4.1	6.5	014536	106468	014540
15.0	20.4	2.0	4.1	6.5	014554	106469	014560
15.0	25.4	2.0	4.1	6.5	014574	106471	014578
15.0	30.4	2.0	4.1	6.5	014591	106472	014596
16.0	20.4	2.0	4.1	6.5	014610	105221	030989
18.0	18.3	2.0	4.1	6.0	018849	106473	030992
20.0	20.4	1.5	4.1	6.5	040831	106474	
20.0	20.4	2.0	4.1	6.5	014649	106475	014656
20.0	25.4	2.0	4.1	6.5	014686	106476	014694
20.0	25.3	2.0	4.1	6.0	018851	106477	030995
20.0	30.4	2.0	4.1	6.5	014725	106478	014731
20.0	35.4	2.0	4.1	6.5	014751	106479	014757
20.0	40.4	2.0	4.1	6.5	031018	106480	031020
24.0	28.3	2.0	4.1	6.0	018852	106481	031001
25.0	25.4	2.0	4.1	6.5	014813	106482	014820
25.0	30.4	2.0	4.1	6.5	014849	106483	014858
25.0	30.4	2.0	5.8	6.5	019470		
25.0	35.4	2.0	4.1	6.5	014881	106485	014888
30.0	20.4	2.0	4.1	6.5	014918	106486	014923
30.0	25.4	2.0	4.1	6.5	014972	106487	014982
30.0	30.4	2.0	4.1	6.5	015047	106488	015056
30.0	30.4	2.0	6.0	6.5	019385	106490	
30.0	35.4	2.0	4.1	6.5	015106	106491	015114
30.0	40.4	2.0	4.1	6.5	015149	106493	015155
32.0	22.3	2.0	4.1	6.0	018855	106494	031007
35.0	20.4	2.0	4.1	6.5	015262	106495	015266
35.0	25.4	2.0	4.1	6.5	015287	106496	015291
35.0	30.4	2.0	4.1	6.5	015335	106497	015340
35.0	35.4	2.0	4.1	6.5	015369	106498	015373
35.0	40.4	2.0	4.1	6.5	015399	106499	015404
35.0	40.4	2.0	6.1	6.0	019731	106500	
40.0	30.3	2.0	4.1	6.0	018856	106501	031016





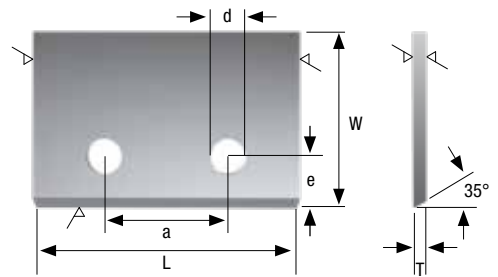
- EN Blanks for profiling
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## Italian Style

EN With 1 bore hole at the bottom  
 DE Mit 1 Bohrung unten  
 FR Avec 1 trou en bas  
 IT Con 1 foro basso  
 ES Con 1 taladro abajo

	L	W	T	d	e	T04F-CR	T04MG-CR	T10MG
	mm	mm	mm	mm	mm			
	15.0	15.4	2.0	4.5	6.5	031021	106441	014547
	15.0	20.4	2.0	4.5	6.5	034989	106503	014569
	15.0	25.4	2.0	4.5	6.5	034971	106504	014585
	15.0	30.4	2.0	4.5	6.5	034972	103432	014606
	20.0	20.4	2.0	4.5	6.5	034973	106505	014665
	20.0	25.4	2.0	4.5	6.5	034974	106506	014708
	20.0	30.4	2.0	4.5	6.5	034975	106181	014741
	20.0	35.4	2.0	4.5	6.5	034976	106507	014764
	25.0	20.4	2.0	4.5	6.5	034977	106508	014799
	25.0	25.4	2.0	4.5	6.5	034978	106509	014834
	25.0	30.4	2.0	4.5	6.5	034979	106510	014871
	25.0	35.4	2.0	4.5	6.5	034980	106511	014895
	30.0	20.4	2.0	4.5	6.5	034981	106512	014935
	30.0	25.4	2.0	4.5	6.5	034982	106513	014995
	30.0	30.4	2.0	4.5	6.5	034983	106514	015068
	30.0	35.4	2.0	4.5	6.5	034984	106515	015124
	35.0	25.4	2.0	4.5	6.5	034986	106516	015301
	35.0	30.4	2.0	4.5	6.5	034987	106518	015347

	L	W	T	d	e	T04F-CR	T04MG-CR	T10MG
	mm	mm	mm	mm	mm			
	15.0	20.4	2.0	4.5	6.5	034970	106519	014570
	15.0	25.4	2.0	4.5	6.5	034990	106520	031046
	15.0	30.4	2.0	4.5	6.5	034991	106521	014607
	20.0	20.4	2.0	4.5	6.5	034992	106522	014666
	20.0	25.4	2.0	4.5	6.5	034993	106523	014709
	20.0	30.4	2.0	4.5	6.5	034994	106525	014742
	20.0	35.4	2.0	4.5	6.5	034995	106526	014765
	25.0	20.4	2.0	4.5	6.5	041075	106527	014800
	25.0	25.4	2.0	4.5	6.5	034996	106528	014835
	25.0	30.4	2.0	4.5	6.5	034997	106529	014872
	25.0	35.4	2.0	4.5	6.5	038344	106530	014896
	30.0	20.4	2.0	4.5	6.5	034998	106531	031066
	30.0	25.4	2.0	4.5	6.5	038900	106532	014996
	30.0	30.4	2.0	4.5	6.5	015066	106533	015069
	30.0	35.4	2.0	4.5	6.5	042107	106534	100456
	30.0	40.4	2.0	4.5	6.5	042108	106535	015163



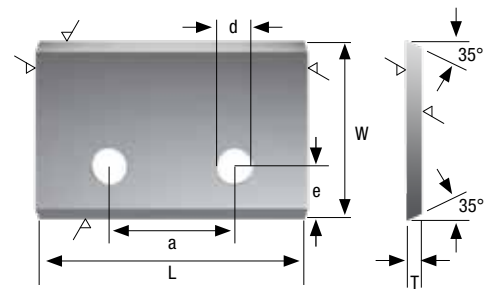
- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
- IT Placchette da profilare
- ES Placas para perfilar

EN With 2 bore holes at the bottom  
 DE Mit 2 Bohrungen unten  
 FR Avec 2 trous en bas  
 IT Con 2 fori bassi  
 ES Con 2 taladros abajo

L mm	W mm	T mm	d mm	a mm	e mm	T04F-CR	T04MG-CR	T10MG
24.0	20.4	2.0	4.1	12.0	6.0	017436	106537	041296
30.0	20.4	2.0	4.1	14.0	6.0	017771	106538	031073
30.0	20.4	2.0	4.1	14.0	5.5	014937	106539	014940
30.0	20.4	2.0	4.1	14.0	6.3	039328	106584	041233
30.0	25.4	2.0	4.1	14.0	5.5	014999	106541	012957
30.0	25.4	2.0	4.1	14.0	6.3	015007	106542	031075
30.0	30.4	2.0	4.1	14.0	5.5	015072	106543	031077
30.0	30.4	2.0	4.1	14.0	6.3	039329	106547	041236
30.0	35.4	2.0	4.1	14.0	5.5	015125	106550	031080
30.0	35.4	2.0	4.1	14.0	6.3	019495	106552	041239
30.0	40.4	2.0	4.1	20.0	5.5	015164	106554	031082
31.8	25.4	2.0	4.1	16.0	6.3	041067	106556	036909
35.0	20.4	2.0	4.1	14.0	5.5	031085	106557	031086
35.0	20.4	2.0	4.1	20.0	5.5	031087	106558	031089
35.0	20.4	2.0	4.1	26.0	5.5	015274	106560	031091
35.0	25.4	2.0	4.1	26.0	5.5	015305	106561	015311
35.0	25.4	2.0	4.1	14.0	6.3	039575	106562	041242
35.0	25.4	2.0	4.1	18.0	6.3	019885	106563	041336
35.0	30.4	2.0	4.1	20.0	5.5	015356	106564	031095
35.0	30.4	2.0	4.1	14.0	6.3	039576	104828	041245
35.0	35.4	2.0	4.1	14.0	6.3	039577	106566	041248
35.0	40.4	2.0	4.1	20.0	5.5	015410	106567	031097
35.0	40.4	2.0	4.1	14.0	6.3	039578	106568	041251
40.0	20.4	2.0	4.1	26.0	5.5	015440	106569	015447
40.0	20.4	2.0	4.1	26.0	6.3	039566	105622	041254
40.0	25.4	2.0	4.1	20.0	5.5	015502	106570	031099
40.0	25.4	2.0	4.1	26.0	5.5	015482	106572	015492
40.0	25.4	2.0	4.1	26.0	6.0	017623	106573	031102
40.0	25.4	2.0	4.1	26.0	6.3	039330	106097	041256
50.0	20.4	2.0	4.1	26.0	6.3	039392	106588	041265
50.0	25.4	2.0	4.1	26.0	5.5	015841	106589	015849
50.0	25.4	2.0	4.1	26.0	6.3	039568	104829	041267



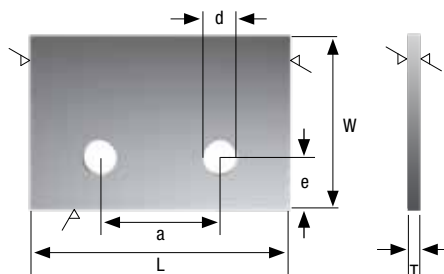




EN With 2 bore holes at the bottom  
 DE Mit 2 Bohrungen unten  
 FR Avec 2 trous en bas  
 IT Con 2 fori bassi  
 ES Con 2 taladros abajo

EN Blanks for profiling  
 DE Blanketts zum Profilieren  
 FR Plaquettes à profiler  
 IT Placchette da profilare  
 ES Placas para perfilar

L mm	W mm	T mm	d mm	a mm	e mm	T04F-CR	T04MG-CR	T10MG
40.0	30.0	2.0	4.1	20.0	5.5	015542	106575	015548
40.0	30.0	2.0	4.1	26.0	5.5	015560	106576	015566
40.0	30.0	2.0	4.1	26.0	6.3	015571	105656	041259
40.0	35.0	2.0	4.1	26.0	5.5	015611	106577	015620
40.0	35.0	2.0	4.1	26.0	6.0	015629	106578	031105
40.0	35.0	2.0	4.1	20.0	5.5	015630	106579	031108
40.0	35.0	2.0	4.1	26.0	6.3	039331	104665	041261
40.0	40.0	2.0	4.1	26.0	6.0	015646	106580	015649
40.0	40.0	2.0	4.1	20.0	6.0	015655	106582	015659
40.0	40.0	2.0	4.1	26.0	6.3	039567	105990	041264
40.0	45.0	2.0	4.1	26.0	6.0	019372	106583	041334
50.0	16.0	2.0	4.1	26.0	5.5	017639	106585	031112
50.0	16.0	2.0	4.1	26.0	6.0	015794	106586	015796
50.0	20.0	2.0	4.1	26.0	5.5	015804	106587	031117
50.0	30.0	2.0	4.1	26.0	5.5	015871	106590	015878
50.0	30.0	2.0	4.1	26.0	6.3	039569	105657	015884
50.0	35.0	2.0	4.1	26.0	6.0	015904	106592	031121
50.0	35.0	2.0	4.1	26.0	5.5	015905	106593	031124
50.0	35.0	2.0	4.1	26.0	6.3	018387	105204	041269
50.0	40.0	2.0	4.1	34.0	6.0	015916	106594	031127
50.0	40.0	2.0	4.1	26.0	6.3	019030	105989	041272
50.0	45.0	2.0	4.1	34.0	6.0	015940	106595	031129
50.0	45.0	2.0	4.1	26.0	6.3	039579	106596	041274
50.0	50.0	2.0	4.1	34.0	6.0	015953	106597	031132
60.0	20.0	2.0	4.1	26.0	5.5	016001	106599	031135
60.0	25.0	2.0	4.1	26.0	5.5	016031	106601	016037
60.0	25.0	2.0	4.1	44.0	5.5	016046	106602	016047
60.0	30.0	2.0	4.1	26.0	6.0	016068	106603	031144
60.0	30.0	2.0	4.1	26.0	6.3	039571	104861	016082
60.0	30.0	2.0	4.1	44.0	6.0	016076	106604	031146
60.0	35.0	2.0	4.1	26.0	6.0	016114	106605	016119
60.0	35.0	2.0	4.1	26.0	6.3	039572	104859	041278
60.0	35.0	2.0	4.1	44.0	6.0	016126	106606	031149
60.0	40.0	2.0	4.1	26.0	6.3	039573	106098	041280
60.0	40.0	2.0	4.1	44.0	6.0	016158	106607	016170
60.0	45.0	2.0	4.1	44.0	6.0	019375	106609	031151
75.0	30.0	2.0	4.1	44.0	6.0	016258	106610	031153
80.0	30.0	2.0	4.1	60.0	6.3	039580	106003	041284
80.0	35.0	2.0	4.1	60.0	6.3	041286	106273	041288
80.0	40.0	2.0	4.1	60.0	6.3	041292	106612	041294
80.0	45.0	2.5	4.1	60.0	6.0	016321	106613	016323
100.0	45.0	2.5	4.2	80.0	6.0	014519	105295	031160
120.0	45.0	2.5	4.2	80.0	6.0	014528	106615	031166

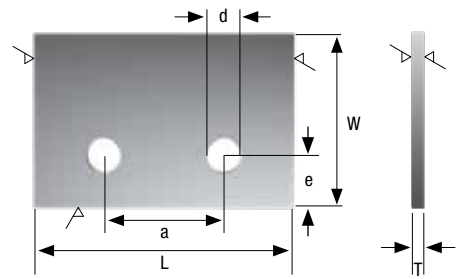
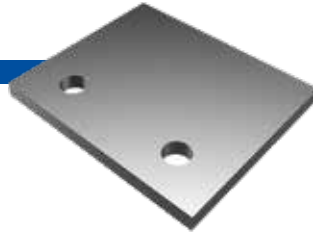


EN With 2 bore holes at the bottom  
 DE Mit 2 Bohrungen unten  
 FR Avec 2 trous en bas  
 IT Con 2 fori bassi  
 ES Con 2 taladros abajo

- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
- IT Placchette da profilare
- ES Placas para perfilar

L	W	T	d	a	e	T04F-CR	T04MG-CR	T10MG
mm	mm	mm	mm	mm	mm			
19.0	30.0	2.0	3.6	8.0	4.75	017790	106616	031964
25.4	30.6	2.0	3.6	14.3	4.75	017791	106617	031967
30.0	20.4	2.0	4.1	14.0	6.5	014938	106621	014941
30.0	25.4	2.0	4.1	14.0	6.5	015000	106622	015003
30.0	25.4	2.0	4.1	19.0	4.75	017603	106623	031970
30.0	25.4	2.0	4.1	19.0	6.5	019428	106624	031972
30.0	30.4	2.0	4.1	14.0	6.5	015073	106625	015077
30.0	30.2	2.0	4.1	19.0	4.75	017605	106626	031975
30.0	30.0	2.0	3.6	19.0	4.75	017785	106627	031978
30.0	35.4	2.0	5.5	12.0	6.0	033964	106628	041328
30.0	35.4	2.0	4.1	14.0	6.5	015126	106629	015129
30.0	40.4	2.0	4.1	14.0	6.5	015165	106630	031979
35.0	20.4	2.0	4.1	14.0	6.5	015275	106631	031989
35.0	25.4	2.0	4.1	14.0	6.5	015306	106632	015312
35.0	30.4	2.0	4.1	14.0	6.5	015351	106633	015354
35.0	35.4	2.0	4.1	20.0	4.8	019831	106634	041331
35.0	35.4	2.0	4.1	14.0	6.5	015383	106635	015385
35.0	40.4	2.0	4.1	14.0	6.5	015411	106636	015414
40.0	20.4	2.0	5.5	26.0	5.5	037885	106637	041339
40.0	20.4	2.0	4.1	26.0	6.5	015441	106638	015448
40.0	25.4	2.0	4.1	26.0	6.5	015484	106639	015493
40.0	30.2	2.0	5.0	27.0	6.3	035290	106640	041299
40.0	30.4	2.0	4.1	26.0	6.5	015544	106642	015550
40.0	30.4	2.0	6.0	26.0	5.5	019253	106643	
40.0	35.4	2.0	5.0	27.0	6.3	018955	106644	041301
40.0	35.4	2.0	4.1	26.0	6.5	015612	106645	015622
40.0	35.4	2.0	6.0	26.0	5.5	019471	106646	
40.0	40.2	2.0	5.0	27.0	6.3	019002	106647	041304
40.0	40.4	2.0	4.1	26.0	6.5	015647	106648	015650
40.0	40.4	2.0	6.0	26.0	5.5	019254	106649	
40.0	45.4	2.0	4.1	26.0	6.5	015676	106650	015677

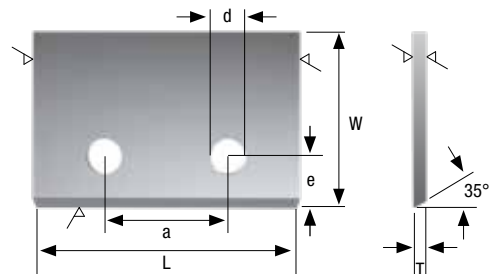




EN With 2 bore holes at the bottom  
 DE Mit 2 Bohrungen unten  
 FR Avec 2 trous en bas  
 IT Con 2 fori bassi  
 ES Con 2 taladros abajo

EN Blanks for profiling  
 DE Blanketts zum Profilieren  
 FR Plaquettes à profiler  
 IT Placchette da profilare  
 ES Placas para perfilar

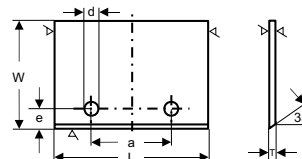
L mm	W mm	T mm	d mm	a mm	e mm	T04F-CR	T04MG-CR	T10MG
50.0	20.4	2.0	4.1	26.0	6.5	015805	106651	015813
50.0	20.4	2.0	4.1	24.0	6.0	019600	106652	041342
50.0	25.2	2.0	5.0	26.0	6.5	019065	106653	041307
50.0	25.4	2.0	4.1	26.0	6.5	015843	106654	015850
50.0	30.4	2.0	4.1	26.0	6.5	015872	106655	015879
50.0	30.4	2.0	6.0	26.0	6.5	019382	106656	
50.0	32.4	2.0	4.1	24.0	6.0	018857	106657	031999
50.0	35.4	2.0	4.1	26.0	6.5	015897	106658	015902
50.0	40.4	2.0	4.1	26.0	6.5	015917	106659	015920
50.0	40.4	2.0	6.0	26.0	6.5	019383	106660	
50.0	45.4	2.0	4.1	26.0	6.5	015941	106661	032005
50.0	50.4	2.0	4.1	26.0	6.5	015954	106663	015956
60.0	20.4	2.0	4.1	26.0	6.5	016002	106664	016007
60.0	25.4	2.0	4.1	26.0	6.5	016033	106665	016038
60.0	30.4	2.0	4.1	26.0	6.5	016069	106666	016072
60.0	35.4	2.0	4.1	26.0	6.5	016116	106667	016121
60.0	40.4	2.0	4.1	26.0	6.5	016160	106668	016172
80.0	25.2	2.0	4.1	60.0	6.5	035291	106669	041310
80.0	30.4	2.0	4.1	26.0	6.5	016276	106670	016279
80.0	35.4	2.0	4.1	26.0	6.5	016290	106672	016292

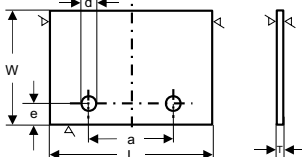


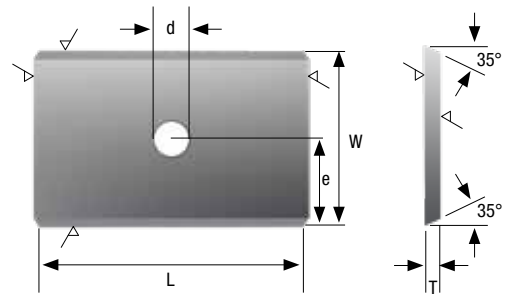
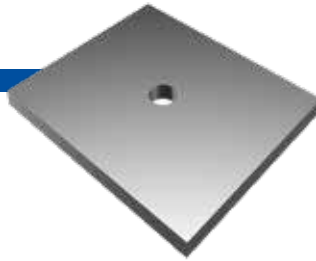
- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
- IT Placchette da profilare
- ES Placas para perfilar

## Italian Style

EN With 2 bore holes at the bottom  
 DE Mit 2 Bohrungen unten  
 FR Avec 2 trous en bas  
 IT Con 2 fori bassi  
 ES Con 2 taladros abajo

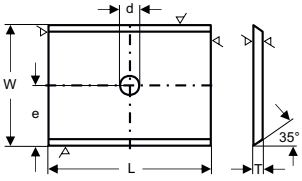
	L	W	T	d	a	e	T04F-CR	T04MG-CR	T10MG
	mm	mm	mm	mm	mm	mm			
	30.0	25.4	2.0	4.5	14.0	6.5	035066	106686	015015
	30.0	30.4	2.0	4.5	14.0	6.5	012981	106687	015088
	30.0	35.4	2.0	4.5	14.0	6.5	035069	106688	015136
	40.0	20.4	2.0	4.5	26.0	6.5	012982	106689	015460
	40.0	25.4	2.0	4.5	26.0	6.5	035073	106690	015508
	40.0	30.4	2.0	4.5	26.0	6.5	035075	106691	015577
	50.0	20.4	2.0	4.5	26.0	6.5	035078	106692	015826
	50.0	35.4	2.0	4.5	26.0	6.5	035082	106693	015909
	60.0	20.4	2.0	4.5	26.0	6.5	035084	106694	016012
	60.0	30.4	2.0	4.5	26.0	6.5	016084	106695	016086
	60.0	35.4	2.0	4.5	26.0	6.5	035086	106696	016132
	80.0	20.4	2.0	4.5	26.0	6.5	035089	106697	031607
	80.0	25.4	2.0	4.5	26.0	6.5	035090	106698	016272

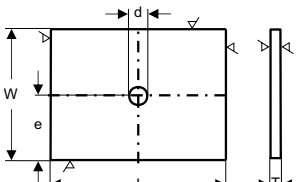
	L	W	T	d	a	e	T04F-CR	T04MG-CR	T10MG
	mm	mm	mm	mm	mm	mm			
	30.0	20.4	2.0	4.5	14.0	6.5	014947	106699	050284
	30.0	25.4	2.0	4.5	14.0	6.5	035067	106700	031612
	30.0	30.4	2.0	4.5	14.0	6.5	015085	106701	015086
	30.0	35.4	2.0	4.5	14.0	6.5	035070	106703	031616
	35.0	25.4	2.0	4.5	14.0	6.5	015320	106704	050286
	35.0	30.4	2.0	4.5	14.0	6.5	042115	106705	050287
	35.0	35.4	2.0	4.5	14.0	6.5	015389	106706	050289
	40.0	20.4	2.0	4.5	26.0	6.5	015458	106707	015461
	40.0	25.4	2.0	4.5	26.0	6.5	035074	106708	015509
	40.0	30.4	2.0	4.5	26.0	6.5	035076	106709	015578
	40.0	35.4	2.0	4.5	26.0	6.5	012980	106710	031621
	40.0	40.4	2.0	4.5	26.0	6.5	035077	106711	015667
	50.0	20.4	2.0	4.5	26.0	6.5	035079	106712	015827
	50.0	25.4	2.0	4.5	26.0	6.5	035080	106713	031627
	50.0	30.4	2.0	4.5	26.0	6.5	035081	106714	015889
	50.0	35.4	2.0	4.5	26.0	6.5	042117	106715	050290
	50.0	40.4	2.0	4.5	26.0	6.5	042118	106716	015927
	60.0	20.4	2.0	4.5	26.0	6.5	035085	106717	016013
	60.0	25.4	2.0	4.5	26.0	6.5	041095	106718	036875
	60.0	30.4	2.0	4.5	26.0	6.5	042121	106719	050282
	60.0	35.4	2.0	4.5	26.0	6.5	035087	106720	016133
	60.0	40.4	2.0	4.5	26.0	6.5	042122	106721	050293
	80.0	30.4	2.0	4.5	26.0	6.5	035091	106722	016286
	80.0	35.4	2.0	4.5	26.0	6.5	035092	106723	016300
	80.0	40.4	2.0	4.5	26.0	6.5	042124	106724	100334

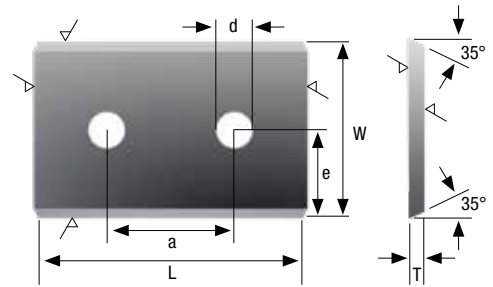


EN With 1 bore hole in the center  
 DE Mit 1 Bohrung mittig  
 FR Avec 1 trou au centre  
 IT Con 1 foro centrale  
 ES Con 1 taladro en el centro

EN Blanks for profiling  
 DE Blanketts zum Profilieren  
 FR Plaquettes à profiler  
 IT Placchette da profilare  
 ES Placas para perfilar

	L mm	W mm	T mm	d mm	T04F-CR
	13.0	14.0	1.5	3.2	015189
	20.0	12.0	2.0	4.1	014618
	13.0	16.0	2.0	3.0	017504
	13.0	16.0	2.0	4.0	018566
	20.0	16.0	2.0	3.0	014631
	20.0	20.0	2.0	4.1	014636
	20.0	24.0	2.0	3.5	014674
	25.0	16.0	2.0	4.1	014776
	25.0	25.0	2.0	4.1	014805
	30.0	20.0	2.0	4.1	014913
	30.0	26.0	2.0	4.1	015020
	40.0	25.0	2.0	4.1	015469

	L mm	W mm	T mm	d mm	T04F-CR
	15.0	15.0	2.0	4.1	014532
	20.0	12.0	2.0	4.1	014619
	20.0	20.0	2.0	4.1	014637
	24.0	22.0	2.0	4.1	018841
	28.0	24.0	2.0	4.1	018842
	30.0	20.0	2.0	4.1	014914
	32.0	24.0	2.0	4.1	018843
	35.0	30.0	2.0	4.1	015328
36.0	28.0	2.0	4.1	018844	



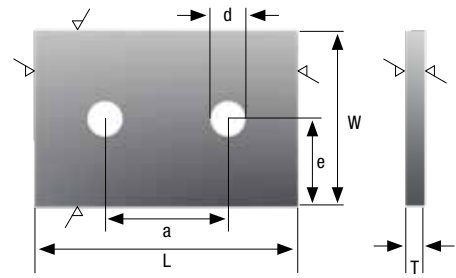
EN With 2 bore holes in the center  
 DE Mit 2 Bohrungen mittig  
 FR Avec 2 trous au centre  
 IT Con 2 fori centrali  
 ES Placas con 2 taladros en el centro

EN Blanks for profiling  
 DE Blanketts zum Profilieren  
 FR Plaquettes à profiler  
 IT Placchette da profilare  
 ES Placas para perfilar

L mm	W mm	T mm	d mm	a mm	e mm	T04F-CR	T10MG
30.0	16.0	2.0	4.0	20.0		014906	014907
30.0	25.0	2.0	3.5	20.0		014956	014962
30.0	25.0	2.0	3.0	20.0		017496	031709
30.0	26.0	2.0	3.5	20.0		015022	031712
30.0	35.0	2.0	4.1	20.0		015098	031715
40.0	16.0	2.0	4.1	26.0		015429	031718
40.0	20.0	2.0	4.1	20.0		015434	031719
40.0	20.0	2.0	4.1	26.0		015436	031721
40.0	25.0	2.0	4.1	20.0		015473	031724
40.0	25.0	2.0	4.1	26.0		015475	031726
40.0	30.0	2.0	3.5	20.0		015518	015523
40.0	30.0	2.0	4.1	20.0		015530	031729
40.0	30.0	2.0	4.1	26.0		015529	031732
40.0	32.62	2.0	3.5	20.0		015583	031735
40.0	35.0	2.0	4.1	20.0		015590	031737
40.0	35.0	2.0	4.1	26.0		015595	015600
40.0	37.82	2.0	3.5	20.0	16.31	015639	031739
40.0	40.0	2.0	4.1	20.0		015641	031742
40.0	40.0	2.0	3.5	20.0		015643	031745
40.0	42.86	2.0	3.5	20.0		015671	031748
45.0	30.0	2.0	4.1	26.0		015781	031751
50.0	16.0	2.0	4.1	26.0		015788	031753
50.0	20.0	2.0	4.1	26.0		015800	031756
50.0	25.0	2.0	4.1	26.0		015838	031759
50.0	30.0	2.0	4.1	26.0		015867	031761
50.0	45.0	2.0	4.1	34.0		015931	015935

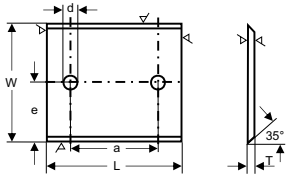


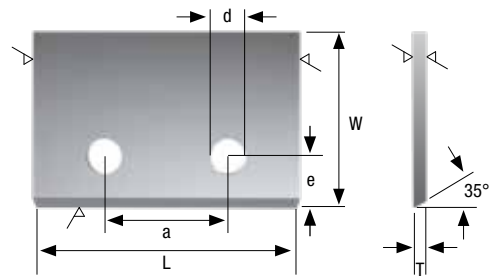




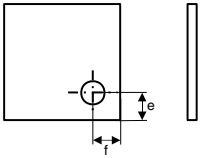
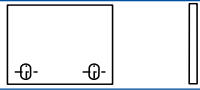
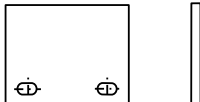
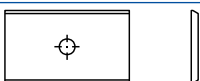
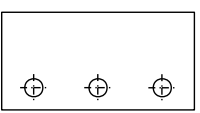
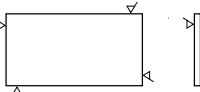
EN With 2 bore holes in the center  
 DE Mit 2 Bohrungen mittig  
 FR Avec 2 trous au centre  
 IT Con 2 fori centrali  
 ES Placas con 2 taladros en el centro

- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
- IT Placchette da profilare
- ES Placas para perfilar

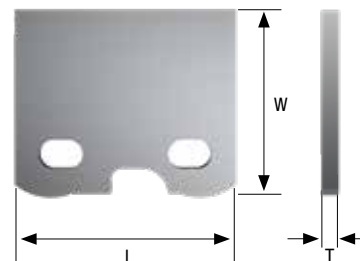
	L mm	W mm	T mm	d mm	a mm	T04F-CR	T10MG
	60.0	20.0	2.0	4.1	26.0	015992	015995
	60.0	25.0	2.0	4.1	26.0	016022	031772
	60.0	24.0	2.0	4.1	36.0	016027	031774
	60.0	32.62	2.0	3.5	20.0	016089	031777
	60.0	35.0	2.0	4.1	26.0	016091	031779
	60.0	35.0	2.0	4.1	44.0	016098	016104
	60.0	37.82	2.0	3.5	20.0	016137	031781
	60.0	39.0	2.0	3.5	20.0	016138	031784
	60.0	40.0	2.0	4.1	44.0	016145	016149
	60.0	42.86	2.0	3.5	20.0	016184	031786
	80.0	24.0	2.0	4.1	60.0	016265	
	80.0	45.0	2.5	4.1	60.0	016317	031794



- EN Special blanks for profiling  
 DE Spezial-Blanketts zum Profilieren  
 FR Plaquettes spéciales à profiler  
 IT Placchette speciali da profilare  
 ES Placas especiales para perfilar

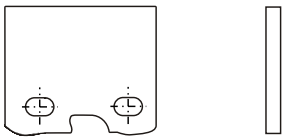
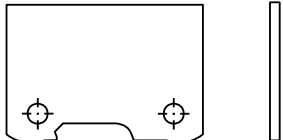
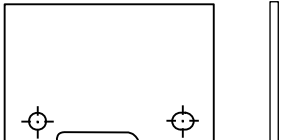

	L mm	W mm	T mm	d mm	a mm	e mm	f mm	T04F-CR
	20.4	20.4	1.5	4.2		6.3	6.3	019915
	20.4	27.6	1.5	4.2		6.3	6.3	019916
	20.5	20.5	2.0	5.0		5.0	5.0	018084
	25.5	20.5	2.0	5.0		6.0	6.0	018434
	25.5	25.0	2.0	5.0		6.0	6.0	018546
	25.5	25.5	2.0	5.0		6.0	6.0	018086
	28.0	32.2	2.0	5.0		6.0	6.0	018536
	40.0	60.2	2.0	4.5x7.0	27.0	7.5		019068
	60.0	25.2	2.0	7.0x4.5	45.5	6.3		037415
	60.0	30.2	2.0	7.0x4.5	45.5	6.3		035292
	60.0	40.2	2.0	7.0x4.5	45.5	6.3		035293
	36.0	21.0	2.0	4.4				017583
	60.0	30.4	2.0	5.6	20.0	7.0		019162
	60.0	35.4	2.0	5.6	20.0	7.0		019472
	60.0	40.4	2.0	5.6	20.0	7.0		019163
	80.0	30.4	2.0	5.6	20.0	7.0		019164
	80.0	35.4	2.0	5.6	20.0	7.0		019473
	80.0	40.4	2.0	5.6	20.0	7.0		019165
	37.5	25.4	1.5					019140
	50.0	25.4	1.5					018343





EN Blanks for profiling  
 DE Blanketts zum Profilieren  
 FR Plaquettes à profiler  
 IT Placchette da profilare  
 ES Placas para perfilar

For Leuco Superprofiler System\*

	L mm	W mm	T mm	T04F-CR	T04MG-CR	T10MG		
	31.0	26.0	1.5	015207	106725	015211		
	41.0	28.0	1.5	015701	102763	015722		
	41.0	28.0	2.0	015695	106726	031837		
	41.0	35.0	1.5	015748	106727	015751		
	41.0	35.0	2.0	015744	106728	015745		
	51.0	35.0	1.5	015973	106729	015975		
	51.0	45.0	2.0	015981	106730	031842		
	60.8	30.6	1.5	016209	106731	016225		
	60.8	30.6	2.0	016206	106732	031846		
	61.0	45.0	2.0	016234	106733	016239		
	81.0	45.0	2.0	016334	106734	016336		
	L mm	W mm	T mm	d mm	e mm	T04F-CR	T04MG-CR	T10MG
	40.4	41.2	2.0	4.1	6.0	015756	106735	
	40.4	41.2	2.0	5.1	8.0	033424	106736	033503

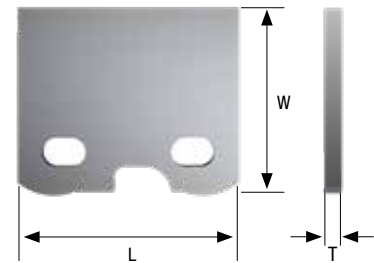
\* EN For use in Leuco-cutterheads only

\* DE Nur zur Verwendung in Messerköpfen der Firma Leuco

\* FR Utilisation limitée aux porte outils de l'entreprise Leuco

\* IT Da usare solo su teste portacottelli della Leuco

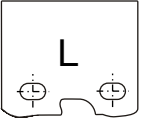
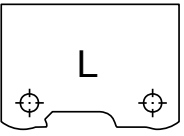
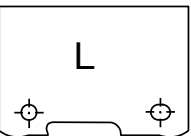

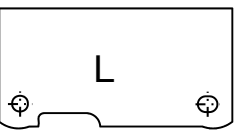
\* ES Sólo para empleo con portacuchillas de la firma Leuco



- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
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>>>MICROFINISH<<<

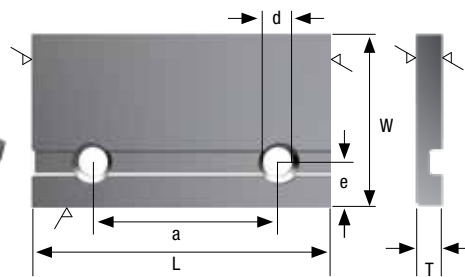
For Leuco Superprofiler System\*

		L	W	T	T04F-CR	T10MG
		mm	mm	mm		
	L	31.0	26.0	1.5	032077	015212
	R	31.0	26.0	1.5	015208	015213
	L	41.0	28.0	1.5	015707	015724
	R	41.0	28.0	1.5	015702	015723
	L	41.0	28.0	2.0	031848	031852
	R	41.0	28.0	2.0	015696	031853
	L	41.0	35.0	1.5	032028	032027
	R	41.0	35.0	1.5	032031	015752
	L	41.0	35.0	2.0	032034	032038
	R	41.0	35.0	2.0	032035	032039
	L	51.0	35.0	1.5	034084	034086
	R	51.0	35.0	1.5	032043	032045
	L	51.0	45.0	2.0	034088	034090
	R	51.0	45.0	2.0	015982	032048
	L	60.8	30.6	1.5	032051	032054
	R	60.8	30.6	1.5	032050	016226
	L	60.8	30.6	2.0	032058	032063
	R	60.8	30.6	2.0	032057	032064
	L	61.0	45.0	2.0	034092	034094
	R	61.0	45.0	2.0	016235	032066
	L	81.0	45.0	2.0	034096	034098
	R	81.0	45.0	2.0	032067	032069

L =            R =  
 EN left      EN right  
 DE links     DE rechts  
 FR gauche   FR droite  
 IT sinistra   IT destra  
 ES izqierda ES derecha

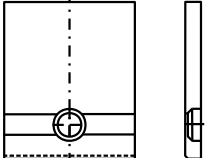
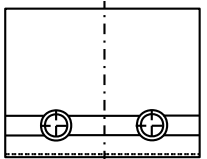
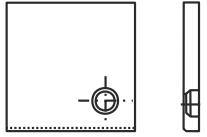
\* EN For use in Leuco-cutterheads only  
 \* DE Nur zur Verwendung in Messerköpfen der Firma Leuco  
 \* FR Utilisation limitée aux porte outils de l'entreprise Leuco  
 \* IT Da usare solo su teste portacottelli della Leuco  
 \* ES Sólo para empleo con portacuchillas de la firma Leuco





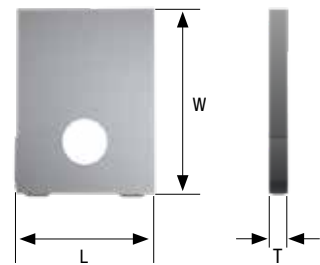
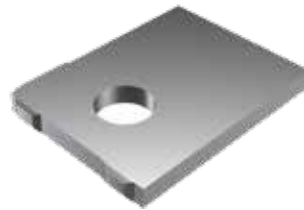
- EN Blanks for profiling
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- FR Plaquettes à profiler
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- ES Placas para perfilar

For Freud System\*

	L mm	W mm	T mm	d mm	a mm	e mm	T10MG	
	20.0	25.0	3.0	4.5		7.0	031880	
	25.0	25.0	3.0	4.5		7.0	031884	
	25.0	30.0	3.0	4.5		7.0	031887	
	25.0	35.0	3.0	4.5		7.0	031890	
	25.0	40.0	3.0	4.5		7.0	031893	
	30.0	40.0	3.0	4.5		7.0	031959	
	35.0	25.0	3.0	4.5		7.0	031897	
	35.0	30.0	3.0	4.5		7.0	031901	
	35.0	35.0	3.0	4.5		7.0	031904	
		45.0	25.0	3.0	4.5	28.0	7.0	031908
45.0		30.0	3.0	4.5	28.0	7.0	031912	
45.0		35.0	3.0	4.5	28.0	7.0	031916	
55.0		25.0	3.0	4.5	41.0	6.0	031920	
55.0		30.0	3.0	4.5	41.0	6.0	031923	
55.0		35.0	3.0	4.5	41.0	6.0	031928	
55.0		40.0	3.0	4.5	41.0	6.0	031932	
65.0		20.0	3.0	4.5	28.0	6.0	031936	
65.0		25.0	3.0	4.5	28.0	6.0	018826	
70.0		25.0	3.0	4.5	41.0	6.0	031940	
80.0		30.0	3.0	4.5	66.0	6.0	031944	
80.0		35.0	3.0	4.5	66.0	6.0	031948	
		40.0	40.0	3.0	4.5		11/11	031952

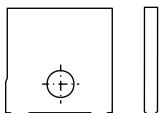
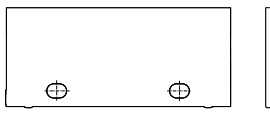
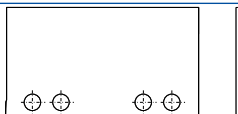
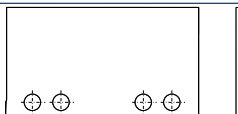
- EN Other grades available upon request!
- DE Andere Sorten auf Anfrage erhältlich!
- FR Autres nuances disponibles sur demande!
- IT Altre gradazioni disponibili su richiesta!
- ES Otros grados disponibles a petición!

\* EN For use in Freud-cutterheads only  
 \* DE Nur zur Verwendung in Messerköpfen der Firma Freud  
 \* FR Utilisation limitée aux porte outils de l'entreprise Freud  
 \* IT Da usare solo su teste portacotelli della Freud  
 \* ES Sólo para empleo con portacuchillas de la firma Freud



- EN Blanks for profiling
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- FR Plaquettes à profiler
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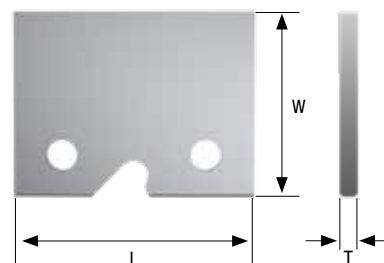
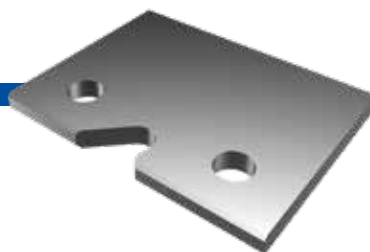
For Leuco 3P-System\*

	L mm	W mm	T mm	T04F-CR	T10MG
	12.5	20.5	2.0	032346	032386
	15.5	20.5	2.0	032347	032456
	15.5	25.5	2.0	032352	032457
	16.4	20.5	2.0	032353	032458
	16.7	25.9	2.0	032354	032459
	18.4	25.9	2.0	032356	032461
	18.4	36.3	2.0	032357	032462
	20.3	20.5	2.0	032358	032463
	20.3	25.5	2.0	032359	032464
	20.3	30.4	2.0	032360	032465
	22.3	25.5	2.0	032361	032466
	24.3	20.9	2.0	032362	032467
	25.3	25.9	2.0	032363	032468
	25.3	35.3	2.0	032364	032469
	28.2	25.5	2.0	032365	032470
	28.2	35.3	2.0	032366	032471
		30.2	25.5	2.0	032348
30.2		30.4	2.0	032367	032478
32.2		22.8	2.0	032368	032479
32.2		35.4	2.0	032369	032480
32.8		26.0	2.0	032370	032481
35.2		26.0	2.0	032371	032482
40.1		20.9	2.0	032372	032483
40.1		30.4	2.0	032373	032484
40.8		36.0	2.0	032374	032485
42.8		31.0	2.0	032375	032486
42.8		36.0	2.0	032376	032487
45.8		36.0	2.0	032377	032488
49.9		20.9	2.0	032378	032489
49.9		33.0	2.0	032379	032490
49.9		40.2	2.0	032380	032491
	60.6	25.8	2.0	032382	032493
	80.6	35.8	2.0	032384	032494
	59.8	35.4	2.0	032381	032492

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 \* FR Utilisation limitée aux porte outils de l'entreprise Leuco  
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 \* ES Sólo para empleo con portacuchillas de la firma Leuco



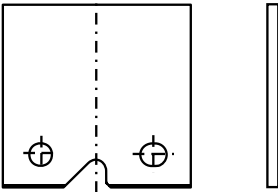
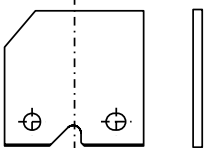




- EN Blanks for profiling
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- ES Placas para perfilar

Also available with Microfinish!  
Auch mit Microfinish erhältlich!

For Oertli System\*

	L mm	W mm	T mm	T04F-CR	T10MG
	20.0	20.3	2.0	032078	032080
	20.0	24.3	2.0	022563	022565
	20.0	29.3	2.0	022567	022568
	20.0	34.3	2.0	032083	022571
	25.0	19.3	2.0	032085	032086
	25.0	24.3	2.0	022577	022578
	25.0	29.3	2.0	022581	022583
	25.0	34.3	2.0	022558	022559
	30.0	19.3	2.0	032098	032100
	30.0	24.3	2.0	022586	032093
	30.0	29.3	2.0	032094	032095
	30.0	34.3	2.0	022611	022612
	35.0	24.3	2.0	022588	022589
	35.0	29.3	2.0	022592	022594
	35.0	34.3	2.0	032103	032104
	45.0	19.3	2.0	022575	022576
	45.0	24.3	2.0	022596	022597
	45.0	29.3	2.0	022600	022602
	45.0	33.3	2.0	032108	022604
	45.0	34.3	2.0	032110	032111
	55.0	19.3	2.0	032116	032118
	55.0	22.3	2.0	032113	035199
	55.0	27.8	2.0	032119	032120
	55.0	29.3	2.0	032122	035204
	55.0	33.3	2.0	022605	022606
	65.0	22.3	2.0	032125	032126
	65.0	27.8	2.0	032128	032130
	65.0	33.3	2.0	022609	032131
80.0	22.3	2.0	032133	032134	
80.0	27.8	2.0	032136	032137	
80.0	33.3	2.0	032141	032140	
	25.0	29.0-50°	2.0	022617	022620
	25.0	29.0-70°	2.0	022624	022628

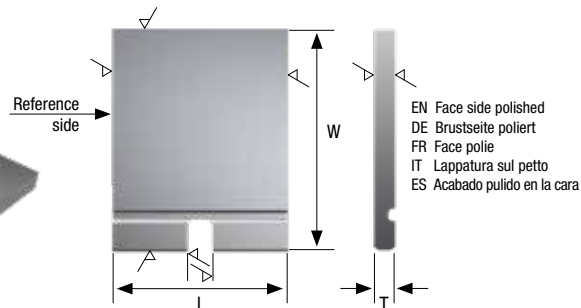
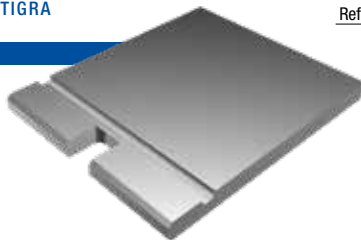
\* EN For use in Oertli-cutterheads only

\* DE Nur zur Verwendung in Messerköpfen der Firma Oertli

\* FR Utilisation limitée aux porte outils de l'entreprise Oertli

\* IT Da usare solo su teste portacottelli della Oertli

\* ES Sólo para empleo con portacuchillas de la firma Oertli



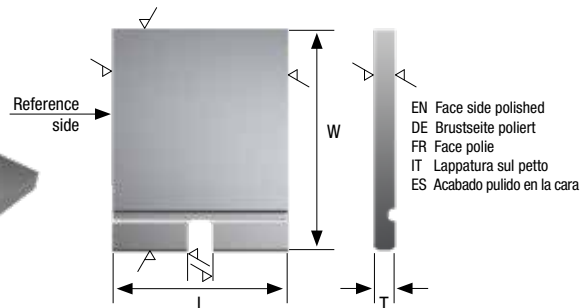
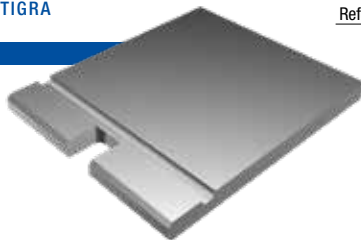
- EN Blanks for profiling
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- ES Placas para perfilar

For System Profilcut\*

L mm	W mm	T mm	T04F-CR	T10MG
15.2	14.5	2.0	130066	130567
15.2	16.5	2.0	130125	130124
15.2	22.5	2.0	130122	130123
20.2	16.5	2.0	032168	129131
20.2	22.5	2.0	032171	038011
20.2	25.5	2.0	023036	129132
20.2	27.9	2.0	032174	023039
20.2	30.6	2.0	032176	129133
20.2	32.6	2.0	032178	129134
20.2	34.0	2.0	032180	129135
25.2	16.5	2.0	032183	129136
25.2	22.5	2.0	032186	129137
25.2	25.5	2.0	032189	129138
25.2	27.9	2.0	032191	129139
25.2	30.6	2.0	032194	129140
25.2	32.6	2.0	032198	129141
25.2	34.0	2.0	032201	129142
30.2	16.5	2.0	032204	129143
30.2	22.5	2.0	032206	129144
30.2	25.5	2.0	032209	129145
30.2	27.9	2.0	032212	023057
30.2	30.6	2.0	032216	129146
30.2	32.6	2.0	032220	129147
30.2	34.0	2.0	032222	129148
35.2	16.5	2.0	129697	129698
35.2	22.5	2.0	129226	129222
35.2	25.5	2.0	129227	129223
35.2	32.5	2.0	129228	129225
40.2	16.5	2.0	032225	129149
40.2	22.5	2.0	032228	129150
40.2	25.5	2.0	032230	129151
40.2	27.9	2.0	032232	129152
40.2	30.6	2.0	032234	129153
40.2	32.6	2.0	032236	129155
40.2	34.0	2.0	032238	129156
50.2	22.5	2.0	032241	129157
50.2	25.5	2.0	032243	129158
50.2	27.9	2.0	032245	129159
50.2	30.6	2.0	032247	129160
50.2	32.6	2.0	032250	129161
50.2	34.0	2.0	032251	129162

\* EN For use in Leitz-cutterheads only  
 \* DE Nur zur Verwendung in Messerköpfen der Firma Leitz  
 \* FR Utilisation limitée aux porte outils de l'entreprise Leitz  
 \* IT Da usare solo su teste portacottelli della Leitz  
 \* ES Sólo para empleo con portacuchillas de la firma Leitz





EN Face side polished  
 DE Brustseite poliert  
 FR Face polie  
 IT Lappatura sul petto  
 ES Acabado pulido en la cara

For System Proficut\*

- EN Blanks for profiling
- DE Blanketts zum Profilieren
- FR Plaquettes à profiler
- IT Placchette da profilare
- ES Placas para perfilar

L mm	W mm	T mm	T04F-CR	T10MG
60.2	22.5	2.0	032254	129163
60.2	25.5	2.0	032256	129166
60.2	27.9	2.0	032258	129167
60.2	30.6	2.0	032260	129168
60.2	32.6	2.0	032262	129170
60.2	34.0	2.0	032264	129171
80.2	16.5	2.0	129218	129217
80.2	22.5	2.0	032267	129172
80.2	25.5	2.0	032270	129173
80.2	27.9	2.0	032273	129174
80.2	30.6	2.0	032276	129175
80.2	32.6	2.0	032279	129176
80.2	34.0	2.0	032282	129177

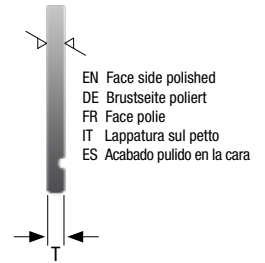
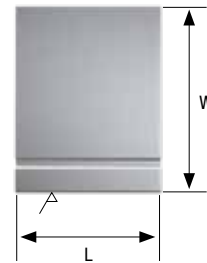
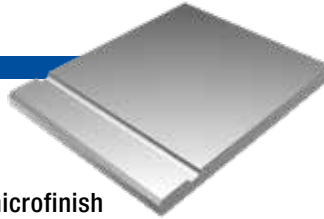
\* EN For use in Leitz-cutterheads only

\* DE Nur zur Verwendung in Messerköpfen der Firma Leitz

\* FR Utilisation limitée aux porte outils de l'entreprise Leitz

\* IT Da usare solo su teste portacotelli della Leitz

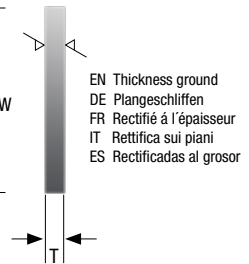
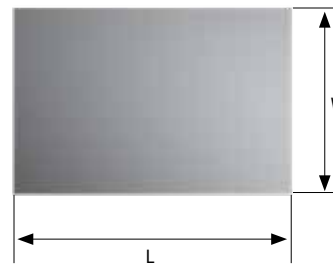
\* ES Sólo para empleo con portacuchillas de la firma Leitz



- EN Knives with crossgroove and microfinish
- DE Blanketts mit Quernut und Microfinish
- FR Plaquettes avec rainure transversale et microfinish
- IT Placchette con scanalatura e microfinish
- ES Placas con ranura transversal y microfinish

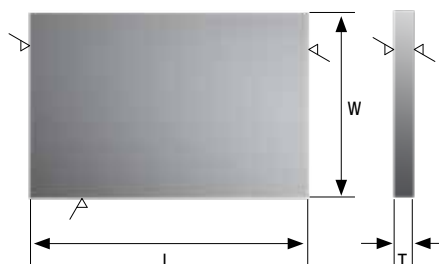
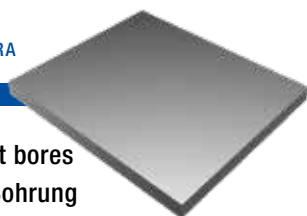
L mm	W mm	T mm	T04F-CR	T10MG
165.0	16.5	2.0	032154	041225
165.0	22.5	2.0	032162	041226
165.0	25.5	2.0	032163	041227
165.0	27.9	2.0	032164	041228
165.0	30.6	2.0	032165	041229
165.0	34.0	2.0	032167	041231

- EN Blanks for profiling - Without bores
- DE Blanketts zum Profilieren - Ohne Bohrung
- FR Plaquettes à profiler - Sans trous
- IT Placchette da profilare - Senza fori
- ES Placas para perfilar - Sin taladros



L mm	W mm	T mm	T04F-CR
40.0	15.0	2.0	018651
40.0	25.0	2.0	018620
40.0	30.0	2.0	018633
40.0	35.0	2.0	018623
48.0	15.0	2.0	018655
48.0	20.0	2.0	018636
48.0	25.0	2.0	018640
50.0	45.0	2.0	018659
50.0	25.4	1.5	018343

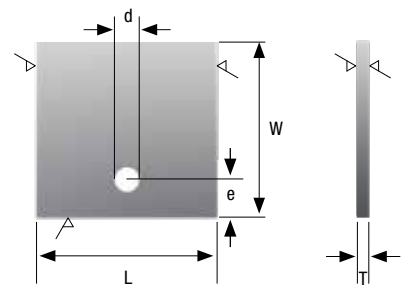
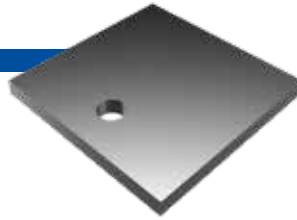




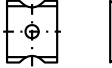
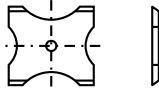
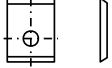
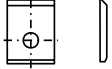
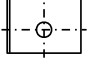
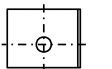
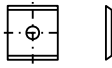
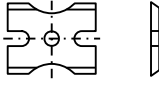
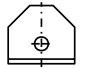


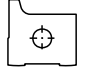

EN 3 sides ground  
 DE 3 Seiten geschliffen  
 FR Rectifié à 3 côtés  
 IT Rettificati su 3 lati  
 ES Rectificadas en 3 lados

- EN Blanks for profiling - Without bores
- DE Blanketts zum Profilieren - Ohne Bohrung
- FR Plaquettes à profiler - Sans trous
- IT Placchette da profilare - Senza fori
- ES Placas para perfilar - Sin taladros

L mm	W mm	T mm	T04MG-CR	T10MG
15.0	15.5	2.0	107755	107795
15.0	20.5	2.0	107756	107796
20.0	20.5	2.0	107757	107797
20.0	25.5	2.0	107758	107798
20.0	30.5	2.0	107759	107799
20.0	35.5	2.0	107760	107800
25.0	20.5	2.0	107761	107801
25.0	25.5	2.0	107762	107802
25.0	30.5	2.0	107763	107803
25.0	35.5	2.0	107764	107804
30.0	20.5	2.0	107765	107805
30.0	25.5	2.0	107766	107806
30.0	30.5	2.0	107767	107807
30.0	35.5	2.0	107768	107808
30.0	40.5	2.0	107769	107809
35.0	20.5	2.0	107770	107810
35.0	25.5	2.0	107771	107811
35.0	30.5	2.0	107772	107812
35.0	35.5	2.0	107773	107813
35.0	40.5	2.0	107774	107814
40.0	20.5	2.0	107775	107815
40.0	25.5	2.0	107776	107816
40.0	30.5	2.0	107777	107817
40.0	35.5	2.0	107778	107818
40.0	40.5	2.0	107779	107819
45.0	30.5	2.0	107780	107820
45.0	35.5	2.0	107781	107821
50.0	20.5	2.0	107782	107822
50.0	25.5	2.0	107783	107823
50.0	30.5	2.0	107784	107824
50.0	35.5	2.0	107785	107826
50.0	40.5	2.0	107786	107827
60.0	20.5	2.0	107787	107828
60.0	25.5	2.0	107788	107829
60.0	30.5	2.0	107789	107830
60.0	40.5	2.0	107790	107831
60.0	45.5	2.0	107791	107832
80.0	25.5	2.0	107792	107833
80.0	35.5	2.0	107793	107835
80.0	45.5	2.0	107794	107836

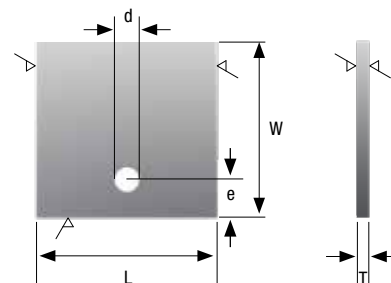
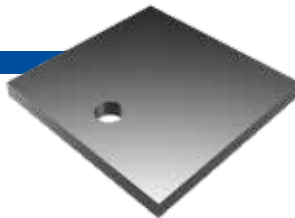


EN Preprofiled blanks  
 DE Vorprofilierter Blanketts  
 FR Plaquettes préprofilées  
 IT Placchette presagomate  
 ES Cuchillas preperfiladas

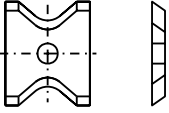
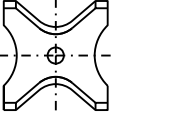
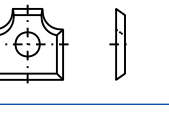
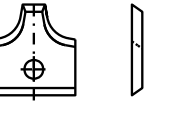
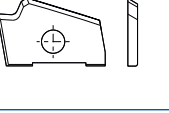
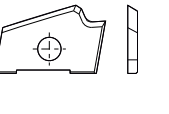
	L	W	T	d	e	R	T04F-CR	T04MG-CR	T10MG
	mm	mm	mm	mm	mm	mm			
	13.0	16.0	2.0	3.0		2-4	015176	033175	033176
	13.0	16.0	2.0	4.0		2-4	015177	033178	033179
	20.0	21.0	2.0	3.0		5-8	015180		
	20.0	21.0	2.0	4.0		5-8	015181		
	26.0	24.0	2.0	3.0		9-13	015183		
	26.0	24.0	2.0	4.0		9-13	015185		
	12.0	14.5	2.0	4.0	6.0		017731	034072	
	12.0	18.0	2.0	4.0	6.0		019815	034075	034076
	12.0	18.0	2.0	5.0	5.5		037116	040950	040952
	19.6	15.5	2.0	4.0	6.0		035156	040942	
	19.6	15.5	2.0	4.0	6.0		035157	040943	
	13.0	14.0	1.5	3.2		2-4	015189		
	20.0	16.0	2.0	3.2		5-8	015191	033203	033204
	26.0	18.0	2.0	3.2		9-13	015193	033206	033207
	16.0	17.5	2.0	3.0	5.0	2-6	017550	034059	034060
	16.0	17.5	2.0	3.5	5.0	2-6	015235	033227	033228
	16.0	17.5	2.0	4.0	5.0	2-6	015242	033233	033234
	16.0	17.5	2.0	4.4	5.0	2-6	051310	051311	051341
	20.0	17.5	2.0	4.0	6.0	2-8	015239		
	20.0	20.5	2.0	4.0	6.3	2-6	015245		
	16.0	17.5	2.0	4.4	5.4	2-6	015243	033230	033231
	24.0	20.4	2.0	4.2	6.3	2-6	015247		
	15.0	15.0	2.0	4.0	6.0		022306	034081	034082
	16.0	14.6	2.0	5.0	6.0		046698		



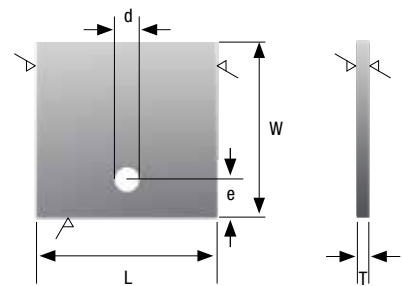
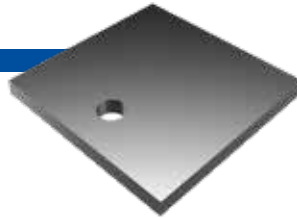




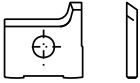
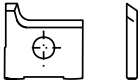
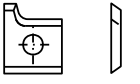

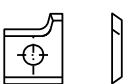

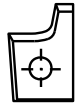

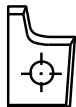

- EN Profiled standard blanks
- DE Profilierte Standardblanketts
- FR Plaquettes standard profilées
- IT Placchette profilate standard
- ES Cuchillas perfiladas standard

	L mm	W mm	T mm	d mm	R mm	T04F-CR
	13.0	16.0	2.0	4.0	2.0	032836
	13.0	16.0	2.0	4.0	3.0	032837
	13.0	16.0	2.0	4.0	4.0	032838
	20.0	21.0	2.0	4.0	5.0	032839
	20.0	21.0	2.0	4.0	6.0	032840
	20.0	21.0	2.0	4.0	8.0	032842
	26.0	24.0	2.0	4.0	10.0	032844
	26.0	24.0	2.0	4.0	12.0	032846
	12.0	12.0	1.5	4.0	2.0	016426
	12.0	12.0	1.5	4.0	3.0	016427
	16.0	17.5	2.0	3.0	3.0	016516
	16.0	17.5	2.0	3.0	5.0	016519
	16.0	17.5	2.0	3.5	2.0	016469
	16.0	17.5	2.0	3.5	3.0	016470
	16.0	17.5	2.0	3.5	4.0	016472
	16.0	17.5	2.0	3.5	5.0	016473
	16.0	17.5	2.0	3.5	6.0	016474
	16.0	17.5	2.0	4.0	2.0	016477
	16.0	17.5	2.0	4.0	3.0	016478
	16.0	17.5	2.0	4.0	4.0	016479
	16.0	17.5	2.0	4.0	5.0	016480
	16.0	17.5	2.0	4.4	2.0	016510
	16.0	17.5	2.0	4.4	3.0	016511
	16.0	17.5	2.0	4.4	4.0	016512
16.0	17.5	2.0	4.4	5.0	016513	
	22.3	14.0	2.0	4.8	1.0	129662
	22.3	14.0	2.0	4.8	1.5	119755
	22.3	14.0	2.0	4.8	2.0	107512
	22.3	14.0	2.0	4.8	3.0	108850
	22.3	14.0	2.0	4.8	1.0	129663
	22.3	14.0	2.0	4.8	1.5	119756
	22.3	14.0	2.0	4.8	2.0	107513
	22.3	14.0	2.0	4.8	3.0	108852

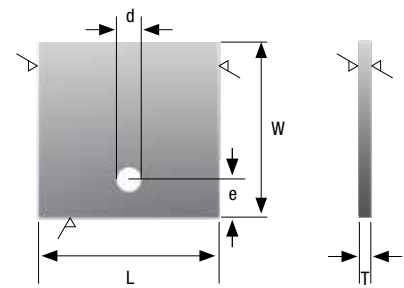
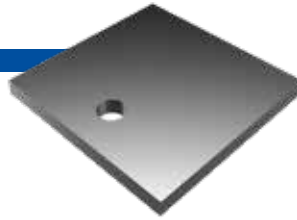
EN \* For use in Leuco-cutterheads only  
 DE \* Nur zur Verwendung in Messerköpfen der Firma Leuco  
 FR \* Utilisation limitée aux porte outils de Leuco  
 IT \* Da usare solo su teste portacottelli della Leuco  
 ES \* Sólo para empleo con portacuchillas de la firma Leuco



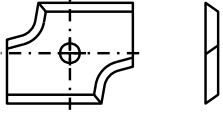
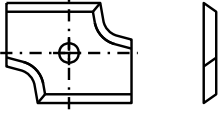

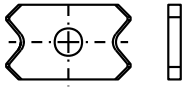

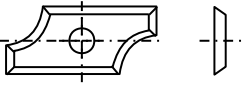

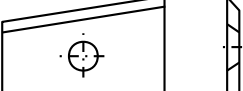
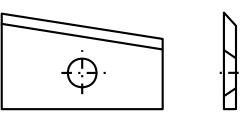
- EN Profiled standard blanks
- DE Profilierte Standardblanketts
- FR Plaquettes standard profilées
- IT Placchette profilate standard
- ES Cuchillas perfiladas standard

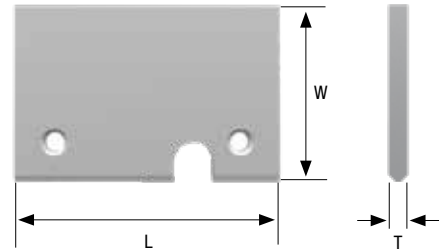
		L	W	T	d	R	T04F-CR	T04MG-CR
		mm	mm	mm	mm	mm		
		15.0	14.5	2.0	4.0	2.0	022305	033941
		15.0	14.5	2.0	4.0	2.5	033939	033947
		15.0	14.5	2.0	4.0	3.0	022308	033953
		16.1	14.0	2.0	5.0	2.0	046693	
		16.1	14.0	2.0	5.0	3.0	049986	
		15.0	14.5	2.0	4.0	2.0	022307	033944
		15.0	14.5	2.0	4.0	2.5	033940	033950
		15.0	14.5	2.0	4.0	3.0	022309	033956
		16.1	14.0	2.0	5.0	2.0	046694	
		16.1	14.0	2.0	5.0	3.0	049987	
		12.0	14.5	2.0	4.0	2.0	021044	033973
		12.0	14.5	2.0	4.0	2.5	020397	034109
		12.0	14.5	2.0	4.0	3.0	020620	034100
		19.6	15.2	2.0	4.0	2.0	033963	
		19.6	15.2	2.0	4.0	3.0	033967	
		12.0	14.5	2.0	4.0	2.0	021045	033981
		12.0	14.5	2.0	4.0	2.5	020396	034106
		12.0	14.5	2.0	4.0	3.0	020619	034103
		19.6	15.2	2.0	4.0	2.0	033966	
		19.6	15.2	2.0	4.0	3.0	033968	
	Quadromat	12.0	18.0	2.0	4.0	2.0	033969	
		12.0	18.0	2.0	4.0	3.0	033970	
	MFA	12.0	18.0	2.0	4.0	2.0	034024	
		12.0	18.0	2.0	4.0	3.0	034031	
	Quadromat	12.0	18.0	2.0	4.0	2.0	033971	
		12.0	18.0	2.0	4.0	3.0	033972	
	MFA	12.0	18.0	2.0	4.0	2.0	034025	
		12.0	18.0	2.0	4.0	3.0	034032	





- EN Profiled standard blanks  
 DE Profilierte Standardblanketts  
 FR Plaquettes standard profilées  
 IT Placchette profilate standard  
 ES Cuchillas perfiladas standard

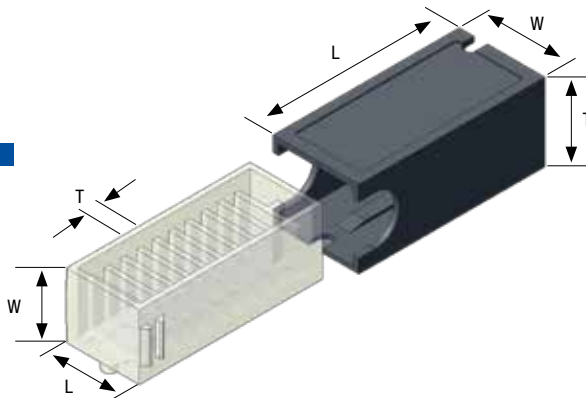
	L	W	T	d	a	R	A°	T04F-CR	T04MG-CR
	mm	mm	mm	mm	mm	mm			
	20.0	16.0	2.0	3.0		3.0		033311	
	30.0	14.0	2.0	4.0		2.0		033312	
	30.0	14.0	2.0	4.0		2.5		033313	
	30.0	14.0	2.0	4.0		3.0		033314	
	20.0	16.0	2.0	3.0		3.0		033315	
	30.0	14.0	2.0	4.0		2.0		033316	
	30.0	14.0	2.0	4.0		2.5		033317	
	30.0	14.0	2.0	4.0		3.0		033318	
	12.0	12.0	1.5	4.0		45°		033319	
	16.0	17.5	2.0	4.0		45°		032964	
	16.0	17.5	2.0	4.4		45°		033324	
	16.0	17.5	2.0	3.5		45°		015237	
	20.0	12.0	2.0	4.0		1.0	6°	032984	
	20.0	12.0	2.0	4.0		1.0	15°	050309	
	20.0	12.0	2.0	4.0		2.0	6°	016419	
	20.0	12.0	2.0	4.0		2.0	15°	050311	
	20.0	12.0	2.0	4.0		3.0	6°	016420	
	20.0	12.0	2.0	4.0		3.0	15°	050313	
	12.7	12.7	3.2			2.0		035041	
	12.7	12.7	3.2			3.0		037922	
	19.5	9.0	1.5	4.0		2.0		033117	
	19.5	9.0	1.5	4.0		3.0		033097	
	19.5	9.0	1.5	4.0		4.0		033098	
	19.5	9.0	1.5	4.0		5.0		033099	
	39.5	12.0	1.5	4.0					033401
	30.0	22.5	3.0					020272	
	55.0	25.0	3.0					020502	
	30.0	22.5	3.0					020273	
	55.0	25.0	3.0					020503	



- EN Backing plates
- DE Stützplatten
- FR Supports
- IT Supporti
- ES Placas de soporte

L mm	W mm	T mm	L for Superprofiler	W for Superprofiler	T	d	e	Art-No.
30.0	24.0	4.0	31.0	26.0	1.5			015209
40.0	26.0	4.0	41.0	28.0	1.5			015705
40.0	33.0	4.0	41.0	35.0	2.0			015749
40.0	38.0	4.0	40.4	41.2	2.0	4.1	6.0	111109
40.0	38.0	4.0	40.4	41.2	2.0	5.1	8.0	053524
50.0	33.0	4.0	51.0	35.0	1.5			015974
50.0	43.0	4.0	51.0	45.0	2.0			152460
60.0	28.0	4.0	61.0	31.0	1.5			016212
60.0	45.0	6.0	61.0	45.0	2.0			016237
80.0	43.0	6.0	81.0	45.0	2.0			016335





EN Packing boxes  
 DE Verpackungsschachteln  
 FR Caisses d'emballage  
 IT Contenitori per imballo  
 ES Cajas de embalaje

EN in anthracite DE in anthrazit FR en anthracite IT in antracite ES en Antracita	External dimension box				Maximum knife dimension			Pieces Stück Unités Unità Unidades
	Außenmaß Schachtel Dimension externe de boîte Dimensione esterna Dimensión externa				Maximales Messermaß Dimension maximum de couteau Dimensione massima della lama Dimensión máxima del cuchillo			
	L mm	W mm	T mm	Art-No.	L mm	W mm	T mm	
	69	31.8	29.2	106393	23	23	4	10
	69	41.8	39.2	114845	33	33	4	10
	69	46.8	44.2	106404	38	38	4	10
	69	54.8	52.2	106856	46	46	4	10
	69	61.8	49.2	114844	53	43	4	10
	69	73.6	49.2	114843	65	43	4	10
	69	73.6	71.2	106858	65	65	4	10



**TIGRA**

TOOLS CUT BETTER WITH TIGRA



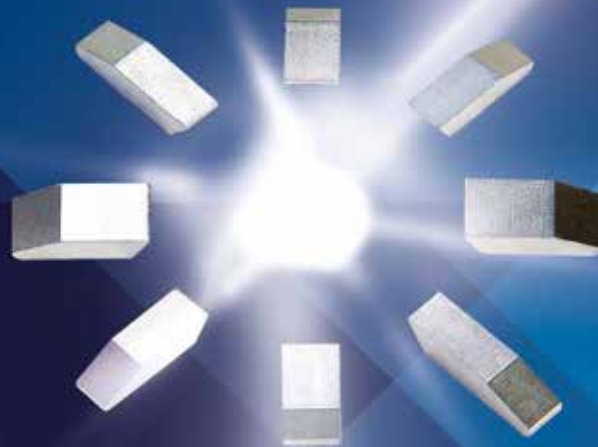




**TIGRA**

TOOLS CUT BETTER WITH TIGRA





- EN Saw tips and strobe blanks
- DE Sägezähne und Wischerblätter
- FR Dents de scie et racleurs
- IT Dentelli per lame e barrette per rasanti
- ES Dientes de sierra y rasuradores

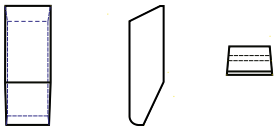
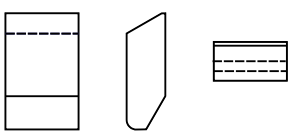
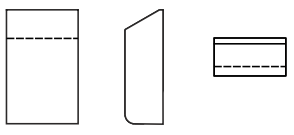

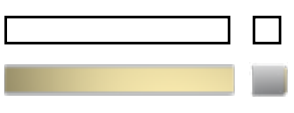



**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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- EN Saw tips and strobe blanks  
 DE Sägezähne und Wischerblätter  
 FR Dents de scie et racleurs  
 IT Dentelli per lame e barrette per rasanti  
 ES Dientes de sierra y rasuradores

	<p>EN Carbide saw tips for circular saws            DE Hartmetallsägezähne für Kreissägen            FR Dents de scie pour scies circulaires            IT Dentelli per lame circolari            ES Dientes de sierra para sierras circulares</p>	<p><i>metric</i>  <i>metrisch</i>  <i>métrique</i>  <i>metrico</i>  <i>métrico</i></p> <p>78 - 83</p>
	<p>EN Carbide saw tips for circular saws            DE Hartmetallsägezähne für Kreissägen            FR Dents de scie pour scies circulaires            IT Dentelli per lame circolari            ES Dientes de sierra para sierras circulares</p>	<p><b>"CW Style"</b>  <i>inch</i></p> <p>84 - 89</p>
	<p>EN Carbide saw tips for circular saws            DE Hartmetallsägezähne für Kreissägen            FR Dents de scie pour scies circulaires            IT Dentelli per lame circolari            ES Dientes de sierra para sierras circulares</p>	<p><b>"W Style"</b>  <i>inch</i></p> <p>90 - 92</p>
	<p>EN Strobe blanks - as sintered and pretinned            DE Wischerblätter - roh und lotbeschichtet            FR Racleurs - bruts et pre-brasés            IT Barrette per rasanti - grezzo e saldo-brasato            ES Rasuradores - en bruto y con solda</p>	<p><i>metric</i>  <i>metrisch</i>  <i>métrique</i>  <i>metrico</i>  <i>métrico</i></p> <p>93</p>
	<p>EN Strobe blanks - as sintered and pretinned            DE Wischerblätter - roh und lotbeschichtet            FR Racleurs - bruts et pre-brasés            IT Barrette per rasanti - grezzo e saldo-brasato            ES Rasuradores - en bruto y con solda</p>	<p><i>inch</i></p> <p>94</p>
	<p>EN Brazing alloys and fluxes            DE Lot und Flussmittel            FR Alliages et flux de brasage            IT Leghe brasanti e disossidanti            ES Aleaciones y fundentes para soldadura fuerte</p>	<p>95</p>

EN For sawtips in metalworking grades please refer to our catalog "Metal and composite material working".  
 DE Für Sägezähne in Metallbearbeitungssorten beachten Sie bitte unseren Katalog "Metall- und Verbundwerkstoffbearbeitung".  
 FR Pour les dents de scie en nuances d'usinage de métaux s.v.p. consultez notre catalogue "Usinage de métaux et de matériaux composites".  
 IT Per i dentelli per lame per la meccanica, consultare il nostro catalogo "Lavorazione di metalli e materiali compositi".  
 ES Para dientes de sierra en las calidades de metal, consulte nuestro catalogo "Trabajo de metal y de materiales compuestos".

- EN Carbide saw tips - Carbide grades and their applications  
 DE Hartmetallsägezähne - Hartmetallsorten und ihre Anwendungen  
 FR Dents de scie - Les nuances de carbures et leurs applications  
 IT Dentelli per lame - I tipi di metallo duro e le loro applicazioni  
 ES Dientes de sierra - Calidades de metal duro y sus aplicaciones





EN	TIGRA grade	ISO	USA	Hardness	Toughness	Bending strength
DE	TIGRA - Sorte	ISO	USA	Härte	Zähigkeit	Biegebruchfestigkeit
FR	Nuance TIGRA	ISO	USA	Dureté	Ténacité	Résistance à la flexion
IT	Tipo TIGRA	ISO	Stati uniti	Durezza	Tenacità	Resistenza flessionale
ES	Calidad TIGRA	ISO	EE.UU.	Dureza	Tenacidad	Resistencia a la flexión
	<b>T02MG-CR</b>	<b>K01</b>	<b>C4+++</b>	↑	↓	↓
	<b>T03MG-CR</b>	<b>K01</b>	<b>C4++</b>	↑	↓	↓
	<b>T03F-CR</b>	<b>K01</b>	<b>C4+</b>	↻	↻	↻
	<b>T06F-CR</b> UNIVERSAL	<b>K10</b>	<b>C3</b>	→	→	→
	<b>T07MF-CR</b>	<b>K20 - K30</b>	<b>C2 - C3</b>	→	↻	→
	<b>T07MF-W</b>	<b>K20 - K30</b>	<b>C2 - C3</b>	↻	↻	↻
	<b>T10MG</b>	<b>K10 - K40</b>	<b>C3+</b>	↻	↻	↑
	<b>T12M-CR</b>	<b>K10 - K40</b>	<b>C3+</b>	↻	↻	↑
	<b>T15C</b>	<b>&gt; K40</b>	<b>Nail Cut</b>	↓	↑	↑

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo

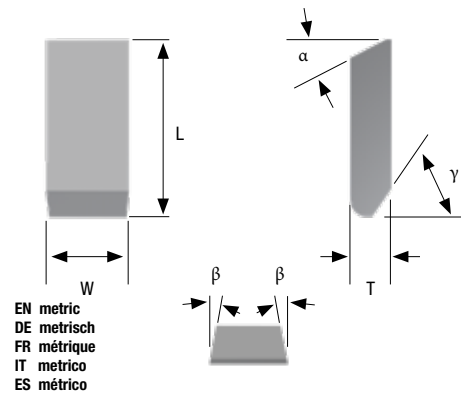
EN For technical data, please refer to the pages 4-5.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 4-5.  
 FR Pour les données techniques, veuillez voir aux pages 4-5.

Aluminum Aluminium Aluminium Alluminio Aluminio	HDF HDF HDF HDF HDF	MDF MDF MDF MDF MDF	Chipboard Spanplatte Panneaux de particule Truciolare Panel de aglomerado	Hardwood Hartholz Bois dur Legno duro Madera dura	Softwood Weichholz Bois tendre Legno tenero Madera blanda	Main usage Hauptverwendung Usage principal Usos principales Usos principales
○	✓	✓	○	☐	☐	EN HDF, Laminat DE HDF, Laminat FR HDF, stratifié IT HDF, laminato ES HDF, laminado
○	✓	✓	✓	☐	☐	EN MDF, HDF DE MDF, HDF FR MDF, HDF IT MDF, HDF ES MDF, HDF
✓	○	✓	✓	○	☐	EN MDF, chipboard, aluminum DE MDF, Spanplatte, Aluminium FR MDF, panneaux, aluminium IT MDF, truciolare, alluminio ES MDF, aglomerado, aluminio
✓	○	○	✓	✓	✓	EN Universal use DE Universeller Einsatz FR Utilisation universelle IT Uso universale ES Uso universal
✓	○	○	✓	✓	✓	EN Universal use (USA) DE Universeller Einsatz (USA) FR Utilisation universelle (ÉTATS-UNIS) IT Uso universale (USA) ES Uso universal (EE.UU.)
○	☐	☐	○	✓	✓	EN Inexpensive saw blades, wood DE Preiswerte Sägeblätter, Holz FR Lames de scie peu coûteuses, bois IT Lama a basso costo, legno ES Hojas de sierra de bajo costo, madera
○	☐	☐	☐	✓	✓	EN Softwood and hardwood DE Weich- und Hartholz FR Bois tendre et dur IT Legni teneri e duri ES Madera blanda y dura
○	☐	☐	☐	✓	✓	EN Saw mills, frozen wood DE Sägewerke, gefrorenes Holz FR Scieries, bois congelé IT Segherie, legno congelato ES Fresa-disco, madera congelada
☐	☐	☐	☐	○	✓	EN Nail cutting, recycling DE Holz mit Nägeln, Recycling FR Couper ongles, recyclage IT Legno con chiodi, riciclato ES Viruta de madera reciclada

IT Per i dati tecnici, fare riferimento alle pagine 4-5.  
ES Para los datos técnicos, consulte las páginas 4-5.

 best performance  
 very good performance  
 acceptable  
 not suitable



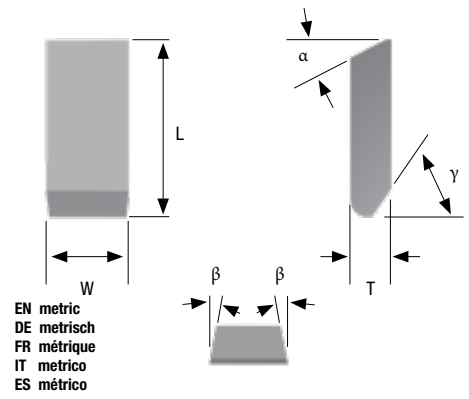


- EN Carbide saw tips for circular saws
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L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T03MG-CR	T03F-CR	T06F-CR
6.5	1.8	2.0	27	5	56			120956
6.5	2.0	2.0	27	5	56	128977	111681	111686
6.5	2.5	2.0	27	5	56		111682	111687
6.5	2.6	2.0	27	5	56	116374		
6.5	3.0	2.0	27	5	56		111683	111688
6.5	3.2	2.0	27	5	56	116373		118303
6.5	3.5	2.0	27	5	56		111684	111689
6.5	3.8	2.0	27	5	56		111685	111690
6.5	4.0	2.0	27	5	56			120254
6.5	4.5	2.0	27	5	56			120255

L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T02MG-CR	T03MG-CR	T03F-CR	T06F-CR	T07MF-W
8.0	2.3	2.3	27	5	70		138381			
8.0	2.5	2.3	27	5	70		126370	121627	121535	152660
8.0	2.8	2.3	27	5	70		114012	111632	111649	
8.0	2.9	2.3	27	5	70		114013	111633	111650	
8.0	3.0	2.3	27	5	70		114014	111634	111651	
8.0	3.1	2.3	27	5	70		121828	115551	115550	152661
8.0	3.2	2.3	27	5	70				122162	
8.0	3.3	2.3	27	5	70		114015	111635	111652	
8.0	3.4	2.3	27	5	70		121831	121832	116207	
8.0	3.5	2.3	27	5	70		114016	111636	111653	152662
8.0	3.6	2.3	27	5	70	152212	114017	111637	111654	
8.0	3.7	2.3	27	5	70					
8.0	3.8	2.3	27	5	70		114018	111638	111655	152663
8.0	3.9	2.3	27	5	70			133903		
8.0	4.0	2.3	27	5	70		114019	111639	111656	146493
8.0	4.1	2.3	27	5	70				124214	
8.0	4.2	2.3	27	5	70			125953		
8.0	4.3	2.3	27	5	70		114020	111640	111657	152665
8.0	4.4	2.3	27	5	70		114021	111641	111658	
8.0	4.5	2.3	27	5	70		114022	111642	111659	146494
8.0	4.8	2.3	27	5	70		114023	111643	111660	
8.0	5.0	2.3	27	5	70		114024	111644	111661	
8.0	5.2	2.3	27	5	70		114025	111645	111662	
8.0	5.5	2.3	27	5	70		114026	111646	111663	
8.0	6.0	2.3	27	5	70		124528			

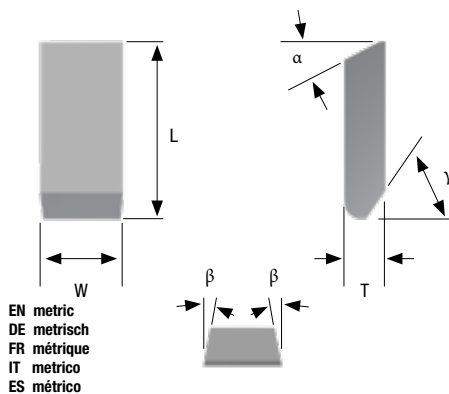




- EN Carbide saw tips for circular saws
- DE Hartmetallsägezähne für Kreissägen
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L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T03MG-CR	T03F-CR
8.0	4.3	3.0	30	5	60	142730	142743
8.0	4.5	3.0	30	5	60	142731	142742
8.0	4.8	3.0	30	5	60	142732	142741
8.0	5.0	3.0	30	5	60	142733	142738
8.0	5.5	3.0	30	5	60	142734	142737
8.0	6.0	3.0	30	5	60	140482	133718
8.0	6.5	3.0	30	5	60	142735	133719

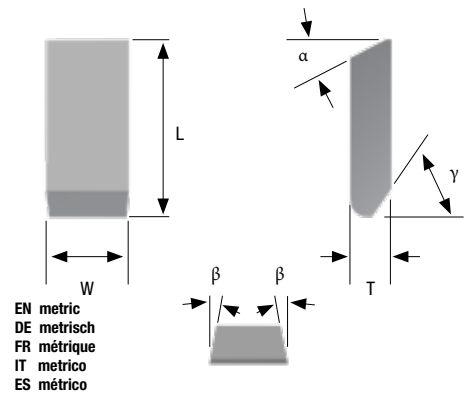




- EN Carbide saw tips for circular saws
- DE Hartmetallsägezähne für Kreissägen
- FR Dents de scie pour scies circulaires
- IT Dentelli per lame circolari
- ES Dientes de sierra para sierras circulares

L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T02MG-CR	T03MG-CR	T06F-CR	T07MF-W
8.5	2.2	2.5	27	5	70			130208	
8.5	2.5	2.5	27	5	70		114027	111621	
8.5	3.0	2.5	27	5	70		114028	111622	
8.5	3.3	2.5	27	5	70		114029	111623	
8.5	3.4	2.5	27	5	70		124609	128510	
8.5	3.5	2.5	27	5	70		120964	120961	
8.5	3.6	2.5	27	5	70	152213	114030	111624	152666
8.5	3.8	2.5	27	5	70		114032	111626	152667
8.5	4.0	2.5	27	5	70		114033	111627	
8.5	4.2	2.5	27	5	70		128976	119323	152668
8.5	4.3	2.5	27	5	70		124204	124694	
8.5	4.5	2.5	27	5	70		114034	111628	152669
8.5	4.6	2.5	27	5	70			119324	
8.5	5.0	2.5	27	5	70		114035	111629	
8.5	5.5	2.5	27	5	70		120972	120403	

L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T03MG-CR	T03F-CR	T06F-CR
9.0	3.2	2.7	27	5	70			125444
9.0	3.3	2.7	27	5	70	114036	111603	111612
9.0	3.5	2.7	27	5	70	114037	111604	111613
9.0	3.8	2.7	27	5	70	114039	111606	111615
9.0	4.2	2.7	27	5	70	114042	111609	111618
9.0	4.3	2.7	27	5	70	114043	111610	111619
9.0	4.7	2.7	27	5	70	114044	111611	111620
9.0	5.2	2.7	27	5	70			129638
9.0	5.3	2.7	27	5	70	129939		
9.0	5.5	2.7	27	5	70			126860
9.0	6.0	2.7	27	5	70			140846

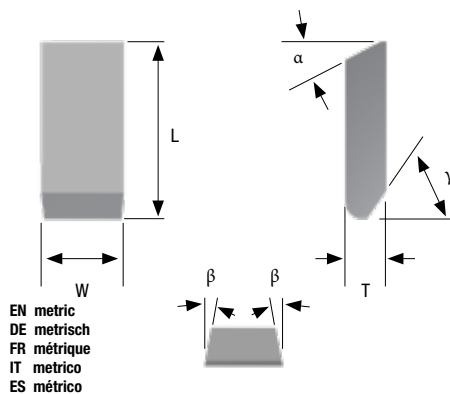


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L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T03MG-CR	T03F-CR	T06F-CR	T07MF-W
10.5	3.0	2.5	27	5	70	114046	111565	111578	
10.5	3.3	2.5	27	5	70	114047	112436	112437	
10.5	3.5	2.5	27	5	70	114049	111567	111580	145071
10.5	3.6	2.5	27	5	70	114050	111568	111581	
10.5	3.8	2.5	27	5	70	114052	111570	111583	152670
10.5	4.0	2.5	27	5	70	114053	111571	111584	148043
10.5	4.1	2.5	27	5	70	141374		134345	
10.5	4.3	2.5	27	5	70	114054	111572	111585	
10.5	4.5	2.5	27	5	70	114055	111573	111586	147520
10.5	4.6	2.5	27	5	70			119905	
10.5	4.8	2.5	27	5	70			126184	
10.5	5.0	2.5	27	5	70	114056	111574	111587	152671
10.5	5.5	2.5	27	5	70	114057	111575	111588	
10.5	6.0	2.5	27	5	70	121835	121836	119953	
10.5	6.5	2.5	27	5	70	114058	111576	111589	

L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T02MG-CR	T03MG-CR	T03F-CR	T06F-CR	T07MF-CR	T07MF-W
10.5	3.3	3.0	27	5	65				121536		
10.5	3.5	3.0	27	5	65		114060	111489	111508	111546	146486
10.5	3.6	3.0	27	5	65		114061	111490	111509	111547	
10.5	3.8	3.0	27	5	65		114062	111491	111510	111548	
10.5	3.9	3.0	27	5	65				121540		
10.5	4.1	3.0	27	5	65		114063	111492	111511	111549	152672
10.5	4.3	3.0	27	5	65		114064	111493	111512	111550	146487
10.5	4.5	3.0	27	5	65		114065	111494	111513	111551	152673
10.5	4.6	3.0	27	5	65		114066	111495	111514	111552	
10.5	4.7	3.0	27	5	65		114067	111496	111515	111553	146488
10.5	4.8	3.0	27	5	65	152214	114068	111497	111516	111554	
10.5	5.0	3.0	27	5	65		114069	111498	111517	111555	152674
10.5	5.3	3.0	27	5	65	152215	114070	111499	111518	111556	
10.5	5.5	3.0	27	5	65		114071	111500	111519	111557	152675
10.5	5.6	3.0	27	5	65		114072	111501	111520	111558	
10.5	6.0	3.0	27	5	65		114073	111502	111521	111559	
10.5	6.5	3.0	27	5	65		114074	111503	111522	111560	
10.5	7.0	3.0	27	5	65		114075	111504	111523	111561	
10.5	7.5	3.0	27	5	65		124193		118655		
10.5	8.0	3.0	27	5	65				118879		
10.5	8.5	3.0	27	5	65		114076	111505	111524	111562	
10.5	10.5	3.0	27	5	65		114077	111506	111525	111563	

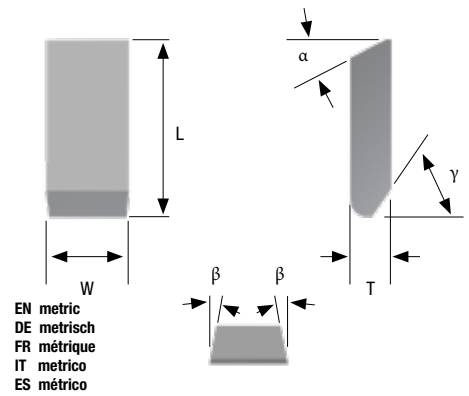




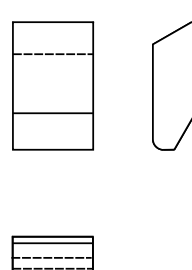
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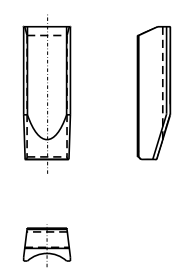
L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T02MG-CR	T03MG-CR	T03F-CR	T06F-CR	T07MF-CR	T07MF-W
10.5	3.5	3.5	27	5	60			111429	111449	112414	145072
10.5	4.0	3.5	27	5	60			111430	111450	112415	145991
10.5	4.1	3.5	27	5	60			111431	111451	112416	
10.5	4.3	3.5	27	5	60			111432	111452	112417	
10.5	4.4	3.5	27	5	60					131206	
10.5	4.5	3.5	27	5	60			111433	111453	112418	145992
10.5	4.7	3.5	27	5	60			111434	111454	112419	
10.5	4.8	3.5	27	5	60		122004	111435	111455	112420	
10.5	5.0	3.5	27	5	60	152230	126206	111436	111456	112421	145070
10.5	5.3	3.5	27	5	60	152216	126913	111437	111457	112422	
10.5	5.5	3.5	27	5	60		130113	111438	111458	112423	145069
10.5	5.8	3.5	27	5	60			111439	111459	112424	
10.5	6.0	3.5	27	5	60		122005	111440	111460	112425	145995
10.5	6.5	3.5	27	5	60			111441	111461	112426	144793
10.5	7.0	3.5	27	5	60			111442	111462	112427	
10.5	7.5	3.5	27	5	60			111443	111463	112428	146485
10.5	8.0	3.5	27	5	60			111444	111464	112429	
10.5	8.5	3.5	27	5	60			111445	111465	112430	
10.5	9.0	3.5	27	5	60			111446	111466	112431	
10.5	10.0	3.5	27	5	60			111447	111467	112432	
10.5	11.5	3.5	27	5	60				118891		

L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T02MG-CR	T03MG-CR	T03F-CR	T07MF-CR	T12M-CR	T07MF-W
13.0	3.8	4.0	30	5	60			121838	116278		
13.0	4.2	4.0	30	5	60					126246	
13.0	4.9	4.0	30	5	60			111410	111419		
13.0	5.2	4.0	30	5	60					126247	152676
13.0	5.4	4.0	30	5	60	152222	124194	111411	111420		
13.0	5.8	4.0	30	5	60			111412	111421	119611	
13.0	6.0	4.0	30	5	60		127248	111413	111422		152677
13.0	6.3	4.0	30	5	60	152224	124100	111414	111423	126248	
13.0	6.5	4.0	30	5	60		120620	111415	111424		152678
13.0	6.7	4.0	30	5	60		123406	111416	111425		
13.0	6.9	4.0	30	5	60						
13.0	7.0	4.0	30	5	60			111417	111426		152679
13.0	7.5	4.0	30	5	60			111418	111427		152680
13.0	8.5	4.0	30	5	60						
13.0	9.2	4.0	30	5	60			126566			

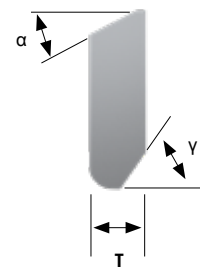
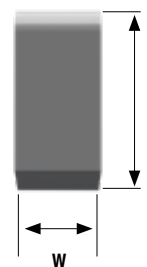


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		L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T07MF-CR	
		14.5	5.0	4.0	30	0	70	111390	
		14.5	6.0	4.0	30	0	70	111392	
		14.5	7.0	4.0	30	0	70	111394	
		14.5	8.0	4.0	30	0	70	111396	
		14.5	9.0	4.0	30	0	70	111397	
		14.5	10.0	4.0	30	0	70	111398	
		14.5	10.5	4.0	30	0	70	111399	
		14.5	11.0	4.0	30	0	70	111400	
		14.5	12.0	4.0	30	0	70	111401	
		14.5	13.0	4.0	30	0	70	111402	
		14.5	14.0	4.0	30	0	70	111403	
		14.5	15.0	4.0	30	0	70	111404	
		14.5	16.0	4.0	30	0	70	111405	
		14.5	17.0	4.0	30	0	70	111406	
		14.5	20.0	4.0	30	0	70	111409	

		L mm	W mm	T mm	$\alpha$	$\beta$	$\gamma$	T03MG-CR	T03F-CR
		8.5	3.5	2.5	25	4	71	149281	144430
		8.5	3.7	2.6	25	7	70	151920	144429
		10.5	3.7	2.6	25	7	77	124256	124257





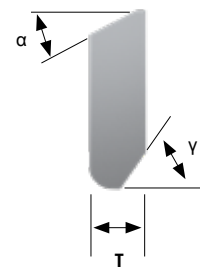
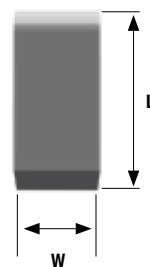
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## CW Style

inch

CWB	L		W		T		$\alpha$	$\beta$	$\gamma$	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm					
<b>7100</b>	<b>0.281</b>	7.1	<b>0.100</b>	2.5	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113848</b>	<b>113836</b>
<b>7120</b>	<b>0.281</b>	7.1	<b>0.120</b>	3.0	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113850</b>	<b>113838</b>
<b>7135</b>	<b>0.281</b>	7.1	<b>0.135</b>	3.4	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113851</b>	<b>113839</b>
<b>7150</b>	<b>0.281</b>	7.1	<b>0.150</b>	3.8	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113852</b>	<b>113840</b>
<b>7165</b>	<b>0.281</b>	7.1	<b>0.165</b>	4.2	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113853</b>	<b>113841</b>
<b>7180</b>	<b>0.281</b>	7.1	<b>0.180</b>	4.6	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113855</b>	<b>113843</b>
<b>7195</b>	<b>0.281</b>	7.1	<b>0.195</b>	5.0	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113856</b>	<b>113844</b>
<b>7200</b>	<b>0.281</b>	7.1	<b>0.200</b>	5.1	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>60</b>	<b>113857</b>	<b>113845</b>

CWD	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T07MF-CR	T10MG	T15C
	inch	mm	inch	mm	inch	mm							
<b>7100</b>	<b>0.312</b>	7.9	<b>0.100</b>	2.5	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111288</b>	<b>111311</b>	<b>112629</b>	<b>111334</b>
<b>7110</b>	<b>0.312</b>	7.9	<b>0.110</b>	2.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111289</b>	<b>111312</b>	<b>112630</b>	<b>111335</b>
<b>7120</b>	<b>0.312</b>	7.9	<b>0.120</b>	3.0	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111291</b>	<b>111314</b>	<b>112632</b>	<b>111337</b>
<b>7125</b>	<b>0.312</b>	7.9	<b>0.125</b>	3.2	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111292</b>	<b>111315</b>	<b>112633</b>	<b>111338</b>
<b>7135</b>	<b>0.312</b>	7.9	<b>0.135</b>	3.4	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111294</b>	<b>111317</b>	<b>112635</b>	<b>111340</b>
<b>7140</b>	<b>0.312</b>	7.9	<b>0.140</b>	3.6	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111295</b>	<b>111318</b>	<b>112636</b>	<b>111341</b>
<b>7150</b>	<b>0.312</b>	7.9	<b>0.150</b>	3.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111296</b>	<b>111319</b>	<b>112637</b>	<b>111342</b>
<b>7165</b>	<b>0.312</b>	7.9	<b>0.165</b>	4.2	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111298</b>	<b>111321</b>	<b>112639</b>	<b>111344</b>
<b>7170</b>	<b>0.312</b>	7.9	<b>0.170</b>	4.3	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111299</b>	<b>111322</b>	<b>112640</b>	<b>111345</b>
<b>7180</b>	<b>0.312</b>	7.9	<b>0.180</b>	4.6	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111301</b>	<b>111324</b>	<b>112642</b>	<b>111347</b>
<b>7185</b>	<b>0.312</b>	7.9	<b>0.185</b>	4.7	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111302</b>	<b>111325</b>	<b>112643</b>	<b>111348</b>
<b>7200</b>	<b>0.312</b>	7.9	<b>0.200</b>	5.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111304</b>	<b>111327</b>	<b>112645</b>	<b>111350</b>
<b>7215</b>	<b>0.312</b>	7.9	<b>0.215</b>	5.5	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111305</b>	<b>111328</b>	<b>112646</b>	<b>111351</b>
<b>7220</b>	<b>0.312</b>	7.9	<b>0.220</b>	5.6	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111306</b>	<b>111329</b>	<b>112647</b>	<b>111352</b>
<b>7230</b>	<b>0.312</b>	7.9	<b>0.230</b>	5.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111307</b>	<b>111330</b>	<b>112648</b>	<b>111353</b>
<b>7250</b>	<b>0.312</b>	7.9	<b>0.250</b>	6.4	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111309</b>	<b>111332</b>	<b>112650</b>	<b>111355</b>
<b>7280</b>	<b>0.312</b>	7.9	<b>0.280</b>	7.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>112653</b>	<b>112654</b>	<b>112651</b>	<b>112655</b>
<b>7312</b>	<b>0.312</b>	7.9	<b>0.312</b>	7.9	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111310</b>	<b>111333</b>	<b>112652</b>	<b>111356</b>



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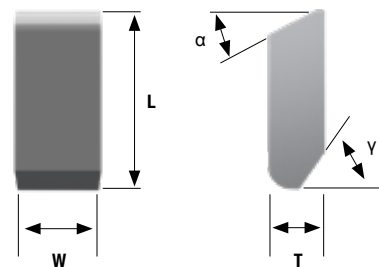
## CW Style

inch

CWE	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm						
<b>7140</b>	<b>0.375</b>	9.5	<b>0.140</b>	3.6	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111358</b>	<b>111380</b>	<b>111369</b>
<b>7150</b>	<b>0.375</b>	9.5	<b>0.150</b>	3.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111359</b>	<b>111381</b>	<b>111370</b>
<b>7165</b>	<b>0.375</b>	9.5	<b>0.165</b>	4.2	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111360</b>	<b>111382</b>	<b>111371</b>
<b>7185</b>	<b>0.375</b>	9.5	<b>0.185</b>	4.7	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111361</b>	<b>111383</b>	<b>111372</b>
<b>7200</b>	<b>0.375</b>	9.5	<b>0.200</b>	5.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111362</b>	<b>111384</b>	<b>111373</b>
<b>7215</b>	<b>0.375</b>	9.5	<b>0.215</b>	5.5	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111363</b>	<b>111385</b>	<b>111374</b>
<b>7225</b>	<b>0.375</b>	9.5	<b>0.225</b>	5.7	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>112658</b>	<b>112660</b>	<b>112659</b>
<b>7230</b>	<b>0.375</b>	9.5	<b>0.230</b>	5.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111364</b>	<b>111386</b>	<b>111375</b>
<b>7250</b>	<b>0.375</b>	9.5	<b>0.250</b>	6.4	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111365</b>	<b>111387</b>	<b>111376</b>
<b>7281</b>	<b>0.375</b>	9.5	<b>0.281</b>	7.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111366</b>	<b>111388</b>	<b>111377</b>
<b>7312</b>	<b>0.375</b>	9.5	<b>0.312</b>	7.9	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>60</b>	<b>111367</b>	<b>111389</b>	<b>111378</b>





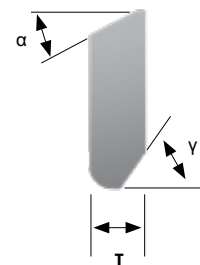
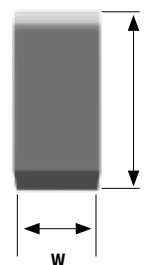


- EN Carbide saw tips for circular saws
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- ES Dientes de sierra para sierras circulares

## CW Style

inch

CWF	L		W		T		$\alpha$	$\beta$	$\gamma$	T07MF-CR	T10MG	T12M-CR	T07MF-W
	inch	mm	inch	mm	inch	mm							
7130	0.500	12.7	0.130	3.3	0.125	3.2	35	0	70	152681	111229	109395	152704
7140	0.500	12.7	0.140	3.6	0.125	3.2	35	0	70	152682	111230	109397	152705
7150	0.500	12.7	0.150	3.8	0.125	3.2	35	0	70	152683	111231	109399	152706
7160	0.500	12.7	0.160	4.1	0.125	3.2	35	0	70	152684	111232	109400	152707
7165	0.500	12.7	0.165	4.2	0.125	3.2	35	0	70	152685	111233	109401	152708
7170	0.500	12.7	0.170	4.3	0.125	3.2	35	0	70	152686	111234	109402	152709
7180	0.500	12.7	0.180	4.6	0.125	3.2	35	0	70	152687	111235	109403	152712
7190	0.500	12.7	0.190	4.8	0.125	3.2	35	0	70	152688	111236	109405	152713
7200	0.500	12.7	0.200	5.1	0.125	3.2	35	0	70	152689	111237	109406	152714
7210	0.500	12.7	0.210	5.3	0.125	3.2	35	0	70	152690	111238	109407	152715
7215	0.500	12.7	0.215	5.5	0.125	3.2	35	0	70	152691	111239	109408	152716
7220	0.500	12.7	0.220	5.6	0.125	3.2	35	0	70	152692	111240	109409	152717
7230	0.500	12.7	0.230	5.8	0.125	3.2	35	0	70	152693	111241	109410	152718
7240	0.500	12.7	0.240	6.1	0.125	3.2	35	0	70	152694	111242	109412	152719
7250	0.500	12.7	0.250	6.4	0.125	3.2	35	0	70	152695	111243	109413	152720
7260	0.500	12.7	0.260	6.6	0.125	3.2	35	0	70	152696	111244	109414	152721
7270	0.500	12.7	0.270	6.9	0.125	3.2	35	0	70	152697	111245	109416	152722
7275	0.500	12.7	0.275	7.0	0.125	3.2	35	0	70	152698	111246	109417	152723
7280	0.500	12.7	0.280	7.1	0.125	3.2	35	0	70	152699	111247	109418	152724
7290	0.500	12.7	0.290	7.4	0.125	3.2	35	0	70	152700	111248	109419	152725
7310	0.500	12.7	0.310	7.9	0.125	3.2	35	0	70	152701	111250	109421	152726
7312	0.500	12.7	0.312	7.9	0.125	3.2	35	0	70	152702	111251	109422	152727
7330	0.500	12.7	0.330	8.4	0.125	3.2	35	0	70	152703	111252	109424	152728



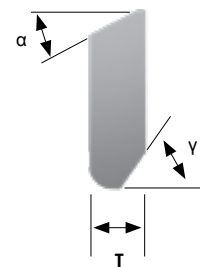
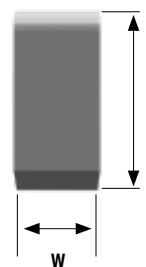
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## CW Style

inch

CWG	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T07MF-CR	T10MG	T12M-CR	T15C	T07MF-W
	inch	mm	inch	mm	inch	mm									
<b>7120</b>	<b>0.375</b>	9.5	<b>0.120</b>	3.0	<b>0.125</b>	3.2	30	0	60	107350	152729	111260	109438	107418	152758
<b>7130</b>	<b>0.375</b>	9.5	<b>0.130</b>	3.3	<b>0.125</b>	3.2	30	0	60	107352	152730	111261	109440	107420	152759
<b>7140</b>	<b>0.375</b>	9.5	<b>0.140</b>	3.6	<b>0.125</b>	3.2	30	0	60	107354	152731	111262	109442	107422	152760
<b>7150</b>	<b>0.375</b>	9.5	<b>0.150</b>	3.8	<b>0.125</b>	3.2	30	0	60	107355	152732	111263	109443	107423	152761
<b>7160</b>	<b>0.375</b>	9.5	<b>0.160</b>	4.1	<b>0.125</b>	3.2	30	0	60	107356	152733	111264	109444	107424	152762
<b>7165</b>	<b>0.375</b>	9.5	<b>0.165</b>	4.2	<b>0.125</b>	3.2	30	0	60	107357	152734	111265	109445	107425	152763
<b>7170</b>	<b>0.375</b>	9.5	<b>0.170</b>	4.3	<b>0.125</b>	3.2	30	0	60	107358	152736	111266	109446	107426	152764
<b>7180</b>	<b>0.375</b>	9.5	<b>0.180</b>	4.6	<b>0.125</b>	3.2	30	0	60	107359	152737	111268	109447	107427	152765
<b>7185</b>	<b>0.375</b>	9.5	<b>0.185</b>	4.7	<b>0.125</b>	3.2	30	0	60	107360	152738	111269	109448	107428	152766
<b>7190</b>	<b>0.375</b>	9.5	<b>0.190</b>	4.8	<b>0.125</b>	3.2	30	0	60	107361	152739	111270	109449	107429	152767
<b>7200</b>	<b>0.375</b>	9.5	<b>0.200</b>	5.1	<b>0.125</b>	3.2	30	0	60	107363	152740	111271	109451	107431	152768
<b>7215</b>	<b>0.375</b>	9.5	<b>0.215</b>	5.5	<b>0.125</b>	3.2	30	0	60	107365	152741	111273	109453	107433	152769
<b>7220</b>	<b>0.375</b>	9.5	<b>0.220</b>	5.6	<b>0.125</b>	3.2	30	0	60	107366	152742	111274	109454	107434	152770
<b>7225</b>	<b>0.375</b>	9.5	<b>0.225</b>	5.7	<b>0.125</b>	3.2	30	0	60	142758	152743	142782	140490		152771
<b>7230</b>	<b>0.375</b>	9.5	<b>0.230</b>	5.8	<b>0.125</b>	3.2	30	0	60	107368	152744	111275	109456	107436	152772
<b>7240</b>	<b>0.375</b>	9.5	<b>0.240</b>	6.1	<b>0.125</b>	3.2	30	0	60	107369	152745	111276	109457	107437	152773
<b>7245</b>	<b>0.375</b>	9.5	<b>0.245</b>	6.2	<b>0.125</b>	3.2	30	0	60	142784	152746	142785	140489		152774
<b>7250</b>	<b>0.375</b>	9.5	<b>0.250</b>	6.4	<b>0.125</b>	3.2	30	0	60	107370	152747	111277	109458	107438	152775
<b>7260</b>	<b>0.375</b>	9.5	<b>0.260</b>	6.6	<b>0.125</b>	3.2	30	0	60	107371	152748	111278	109459	107439	152776
<b>7270</b>	<b>0.375</b>	9.5	<b>0.270</b>	6.9	<b>0.125</b>	3.2	30	0	60	107373	152749	111279	109461	107441	152777
<b>7280</b>	<b>0.375</b>	9.5	<b>0.280</b>	7.1	<b>0.125</b>	3.2	30	0	60	107375	152750	111281	109463	107443	152778
<b>7300</b>	<b>0.375</b>	9.5	<b>0.300</b>	7.6	<b>0.125</b>	3.2	30	0	60	107376	152751	111282	109464	107444	152779
<b>7312</b>	<b>0.375</b>	9.5	<b>0.312</b>	7.9	<b>0.125</b>	3.2	30	0	60	107377	152752	111284	109465	107445	152780
<b>7335</b>	<b>0.375</b>	9.5	<b>0.335</b>	8.5	<b>0.125</b>	3.2	30	0	60	142788	152753	140925	142787		152781
<b>7350</b>	<b>0.375</b>	9.5	<b>0.350</b>	8.9	<b>0.125</b>	3.2	30	0	60	107380	152754	111285	109468	111218	152782
<b>7400</b>	<b>0.375</b>	9.5	<b>0.400</b>	10.2	<b>0.125</b>	3.2	30	0	60	107379	152755	111286	109467	107447	152783
<b>7500</b>	<b>0.375</b>	9.5	<b>0.500</b>	12.7	<b>0.125</b>	3.2	30	0	60	107381	152756	111287	109469	107449	152784



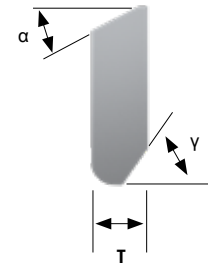
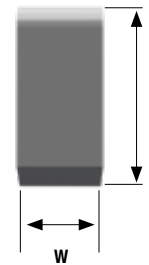


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## CW Style

inch

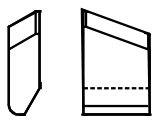
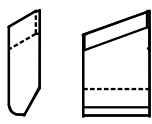
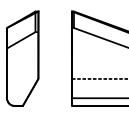
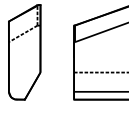
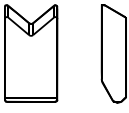
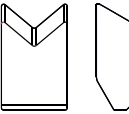
CWH	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T04F-CR	T07MF-CR
	inch	mm	inch	mm	inch	mm						
<b>7135</b>	<b>0.344</b>	8.7	<b>0.135</b>	3.4	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114413</b>	<b>114412</b>	<b>114411</b>
<b>7150</b>	<b>0.344</b>	8.7	<b>0.150</b>	3.8	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114419</b>	<b>114418</b>	<b>114417</b>
<b>7165</b>	<b>0.344</b>	8.7	<b>0.165</b>	4.2	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114425</b>	<b>114424</b>	<b>114423</b>
<b>7185</b>	<b>0.344</b>	8.7	<b>0.185</b>	4.7	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114431</b>	<b>114430</b>	<b>114429</b>
<b>7200</b>	<b>0.344</b>	8.7	<b>0.200</b>	5.1	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114438</b>	<b>114436</b>	<b>114435</b>
<b>7215</b>	<b>0.344</b>	8.7	<b>0.215</b>	5.5	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114446</b>	<b>114445</b>	<b>114443</b>
<b>7220</b>	<b>0.344</b>	8.7	<b>0.220</b>	5.6	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114447</b>	<b>114448</b>	<b>114449</b>
<b>7230</b>	<b>0.344</b>	8.7	<b>0.230</b>	5.8	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114453</b>	<b>114452</b>	<b>114451</b>
<b>7250</b>	<b>0.344</b>	8.7	<b>0.250</b>	6.4	<b>0.125</b>	3.2	<b>30</b>	<b>0</b>	<b>60</b>	<b>114459</b>	<b>114458</b>	<b>114457</b>



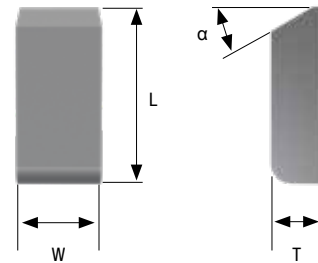
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 ES Dientes de sierra para sierras circulares

## CW Style

inch

	CWD Right	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7165</b>	0.312 7.9	0.165 4.2	0.093 2.4	30	0	60	111711
	<b>7185</b>	0.312 7.9	0.185 4.7	0.093 2.4	30	0	60	111713
	<b>7200</b>	0.312 7.9	0.200 5.1	0.093 2.4	30	0	60	111715
	<b>7215</b>	0.312 7.9	0.215 5.5	0.093 2.4	30	0	60	111717
	<b>7250</b>	0.312 7.9	0.250 6.4	0.093 2.4	30	0	60	111719
	CWD Left	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7165</b>	0.312 7.9	0.165 4.2	0.093 2.4	30	0	60	111712
	<b>7185</b>	0.312 7.9	0.185 4.7	0.093 2.4	30	0	60	111714
	<b>7200</b>	0.312 7.9	0.200 5.1	0.093 2.4	30	0	60	111716
	<b>7215</b>	0.312 7.9	0.215 5.5	0.093 2.4	30	0	60	111718
	<b>7250</b>	0.312 7.9	0.250 6.4	0.093 2.4	30	0	60	111720
	CWG Right	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7230</b>	0.375 9.5	0.230 5.8	0.125 3.2	30	0	60	134882
	<b>7250</b>	0.375 9.5	0.250 6.4	0.125 3.2	30	0	60	132524
	<b>7265</b>	0.375 9.5	0.265 6.7	0.125 3.2	30	0	60	136381
	CWG Left	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7230</b>	0.375 9.5	0.230 5.8	0.125 3.2	30	0	60	134883
	<b>7250</b>	0.375 9.5	0.250 6.4	0.125 3.2	30	0	60	132523
	<b>7265</b>	0.375 9.5	0.265 6.7	0.125 3.2	30	0	60	136382
	CWEV	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7200</b>	0.375 9.5	0.200 5.1	0.093 2.4	30	0	60	119868
	CWGV	L inch mm	W inch mm	T inch mm	$\alpha$	B	$\gamma$	T07MF-CR
	<b>7200</b>	0.375 9.5	0.230 5.8	0.125 3.2	30	0	60	115352





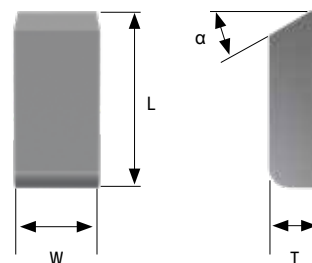
- EN Carbide saw tips for circular saws  
 DE Hartmetallsägezähne für Kreissägen  
 FR Dents de scie pour scies circulaires  
 IT Dentelli per lame circolari  
 ES Dientes de sierra para sierras circulares

## W Style

inch

WB	L		W		T		$\alpha$	$\beta$	$\gamma$	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm					
<b>7100</b>	<b>0.281</b>	7.1	<b>0.100</b>	2.5	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114161</b>	<b>114162</b>
<b>7120</b>	<b>0.281</b>	7.1	<b>0.120</b>	3.0	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114165</b>	<b>114166</b>
<b>7135</b>	<b>0.281</b>	7.1	<b>0.135</b>	3.4	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114168</b>	<b>114167</b>
<b>7150</b>	<b>0.281</b>	7.1	<b>0.150</b>	3.8	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114169</b>	<b>114170</b>
<b>7165</b>	<b>0.281</b>	7.1	<b>0.165</b>	4.2	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114172</b>	<b>114171</b>
<b>7180</b>	<b>0.281</b>	7.1	<b>0.180</b>	4.6	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114173</b>	<b>114174</b>
<b>7185</b>	<b>0.281</b>	7.1	<b>0.185</b>	4.7	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114176</b>	<b>114175</b>
<b>7195</b>	<b>0.281</b>	7.1	<b>0.195</b>	5.0	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114177</b>	<b>114178</b>
<b>7200</b>	<b>0.281</b>	7.1	<b>0.200</b>	5.1	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114180</b>	<b>114179</b>
<b>7250</b>	<b>0.281</b>	7.1	<b>0.250</b>	6.4	<b>0.078</b>	2.0	<b>30</b>	<b>0</b>	<b>0</b>	<b>114184</b>	<b>114183</b>

WD	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T04F-CR	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm							
<b>7120</b>	<b>0.312</b>	7.9	<b>0.120</b>	3.0	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114210</b>	<b>114209</b>	<b>114208</b>	<b>114207</b>
<b>7135</b>	<b>0.312</b>	7.9	<b>0.135</b>	3.4	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114211</b>	<b>114212</b>	<b>114213</b>	<b>114214</b>
<b>7150</b>	<b>0.312</b>	7.9	<b>0.150</b>	3.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114219</b>	<b>114220</b>	<b>114221</b>	<b>114222</b>
<b>7165</b>	<b>0.312</b>	7.9	<b>0.165</b>	4.2	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114227</b>	<b>114228</b>	<b>114229</b>	<b>114230</b>
<b>7185</b>	<b>0.312</b>	7.9	<b>0.185</b>	4.7	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114235</b>	<b>114237</b>	<b>114238</b>	<b>114239</b>
<b>7200</b>	<b>0.312</b>	7.9	<b>0.200</b>	5.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114244</b>	<b>114245</b>	<b>114246</b>	<b>114247</b>
<b>7215</b>	<b>0.312</b>	7.9	<b>0.215</b>	5.5	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114251</b>	<b>114250</b>	<b>114249</b>	<b>114248</b>
<b>7230</b>	<b>0.312</b>	7.9	<b>0.230</b>	5.8	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114252</b>	<b>114253</b>	<b>114254</b>	<b>114255</b>
<b>7250</b>	<b>0.312</b>	7.9	<b>0.250</b>	6.4	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114260</b>	<b>114261</b>	<b>114262</b>	<b>114263</b>
<b>7280</b>	<b>0.312</b>	7.9	<b>0.280</b>	7.1	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114267</b>	<b>114266</b>	<b>114265</b>	<b>114264</b>
<b>7312</b>	<b>0.312</b>	7.9	<b>0.312</b>	7.9	<b>0.093</b>	2.4	<b>30</b>	<b>0</b>	<b>0</b>	<b>114268</b>	<b>114269</b>	<b>114270</b>	<b>114271</b>



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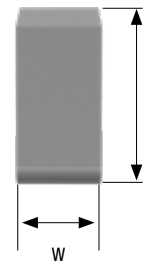
## W Style

inch

WE	L		W		T		$\alpha$	$\beta$	$\gamma$	T03F-CR	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm						
7185	0.375	9.5	0.185	4.7	0.093	2.4	30	0	0	114294	114295	114296
7200	0.375	9.5	0.200	5.1	0.093	2.4	30	0	0	114299	114298	114297
7215	0.375	9.5	0.215	5.5	0.093	2.4	30	0	0	114300	114301	114302
7225	0.375	9.5	0.225	5.7	0.093	2.4	30	0	0	114305	114304	114303
7250	0.375	9.5	0.250	6.4	0.093	2.4	30	0	0	114311	114310	114309
7281	0.375	9.5	0.281	7.1	0.093	2.4	30	0	0	114317	114316	114315
7312	0.375	9.5	0.312	7.9	0.093	2.4	30	0	0	114318	114319	114320
7350	0.375	9.5	0.350	8.9	0.093	2.4	30	0	0	114323	114322	114321
7375	0.375	9.5	0.375	9.5	0.093	2.4	30	0	0	114324	114325	114326

WF	L		W		T		$\alpha$	$\beta$	$\gamma$	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm					
7160	0.500	12.7	0.160	4.1	0.125	3.2	35	0	0	152785	114330
7165	0.500	12.7	0.165	4.2	0.125	3.2	35	0	0	152787	114334
7180	0.500	12.7	0.180	4.6	0.125	3.2	35	0	0	152788	114338
7190	0.500	12.7	0.190	4.8	0.125	3.2	35	0	0	152789	114342
7200	0.500	12.7	0.200	5.1	0.125	3.2	35	0	0	152790	114343
7230	0.500	12.7	0.230	5.8	0.125	3.2	35	0	0	152791	114351
7240	0.500	12.7	0.240	6.1	0.125	3.2	35	0	0	152792	114354
7250	0.500	12.7	0.250	6.4	0.125	3.2	35	0	0	152793	114355
7275	0.500	12.7	0.275	7.0	0.125	3.2	35	0	0	152794	114362
7280	0.500	12.7	0.280	7.1	0.125	3.2	35	0	0	152795	114363
7300	0.500	12.7	0.300	7.6	0.125	3.2	35	0	0	152796	114366
7312	0.500	12.7	0.312	7.9	0.125	3.2	35	0	0	152797	114367
7350	0.500	12.7	0.350	8.9	0.125	3.2	35	0	0	152798	114370
7375	0.500	12.7	0.375	9.5	0.125	3.2	35	0	0	152799	114371
7400	0.500	12.7	0.400	10.2	0.125	3.2	35	0	0	152800	114374
7437	0.500	12.7	0.437	11.1	0.125	3.2	35	0	0	152801	114375
7500	0.500	12.7	0.500	12.7	0.125	3.2	35	0	0	152802	114378
7625	0.500	12.7	0.625	15.9	0.125	3.2	35	0	0	152803	114379





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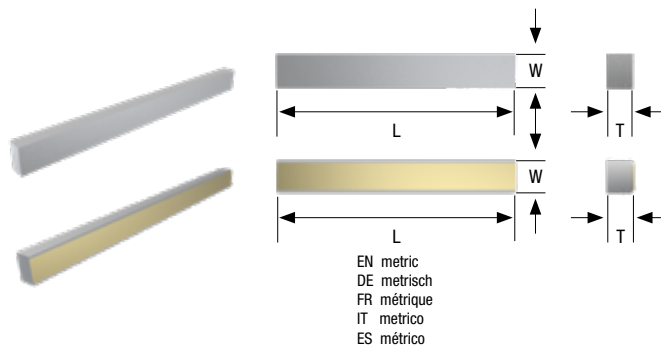
## W Style inch

WG	L		W		T		α	β	γ	T07MF-CR	T10MG
	inch	mm	inch	mm	inch	mm					
7150	0.375	9.5	0.150	3.8	0.125	3.2	30	0	0	152804	138350
7165	0.375	9.5	0.165	4.2	0.125	3.2	30	0	0	152805	138351
7185	0.375	9.5	0.185	4.7	0.125	3.2	30	0	0	152806	138352
7200	0.375	9.5	0.200	5.1	0.125	3.2	30	0	0	152807	115371
7215	0.375	9.5	0.215	5.5	0.125	3.2	30	0	0	152808	115372
7230	0.375	9.5	0.230	5.8	0.125	3.2	30	0	0	152809	115337
7250	0.375	9.5	0.250	6.4	0.125	3.2	30	0	0	152810	115373
7265	0.375	9.5	0.265	6.7	0.125	3.2	30	0	0	152811	138353
7280	0.375	9.5	0.280	7.1	0.125	3.2	30	0	0	152812	128767
7312	0.375	9.5	0.312	7.9	0.125	3.2	30	0	0	152813	115374
7335	0.375	9.5	0.335	8.5	0.125	3.2	30	0	0	152814	140921
7350	0.375	9.5	0.350	8.9	0.125	3.2	30	0	0	152815	138354
7375	0.375	9.5	0.375	9.5	0.125	3.2	30	0	0	152816	140922
7400	0.375	9.5	0.400	10.2	0.125	3.2	30	0	0	152817	140924
7500	0.375	9.5	0.500	12.7	0.125	3.2	30	0	0	152818	138447

WQ	L		W		T		α	β	γ	T10MG
	inch	mm	inch	mm	inch	mm				
7200	0.375	9.5	0.200	5.1	0.156	4.0	30	0	0	114400
7265	0.375	9.5	0.265	6.7	0.156	4.0	30	0	0	114401
7300	0.375	9.5	0.300	7.6	0.156	4.0	30	0	0	114402
7335	0.375	9.5	0.335	8.5	0.156	4.0	30	0	0	114403
7400	0.375	9.5	0.400	10.2	0.156	4.0	30	0	0	114404
7460	0.375	9.5	0.460	11.7	0.156	4.0	30	0	0	114405
7500	0.375	9.5	0.500	12.7	0.156	4.0	30	0	0	114406
7530	0.375	9.5	0.530	13.5	0.156	4.0	30	0	0	140931
7625	0.375	9.5	0.625	15.9	0.156	4.0	30	0	0	114407
7640	0.375	9.5	0.640	16.3	0.156	4.0	30	0	0	140932
7765	0.375	9.5	0.765	19.4	0.156	4.0	30	0	0	140933



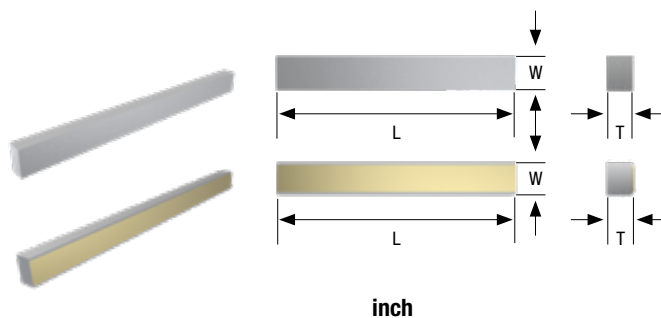
- EN Strobe blanks for circular saws
- DE Wischerblätter für Kreissägen
- FR Racleurs pour scies circulaires
- IT Barrette per rasanti di lame circolari
- ES Rasuradores para sierras circulares



L mm	W mm	T mm	T07MF-W
25	2	2	111033
30	2	2	111034
35	2	2	113524
310	2	2	113525
30	2.3	2	113526
40	2.3	2	111040
310	2.3	2	113527
25	2.5	2	113529
30	2.5	2	111035
35	2.5	2	113531
45	2.5	2	111044
310	2.5	2	113532
25	3	2	109812
30	3	2	043520
35	3	2	113533
40	3	2	043522
50	3	2	113541
310	3	2	113542
30	3.3	2	049602
35	3.3	2	113544
40	3.3	2	113546
50	3.3	2	113549
55	3.3	2	113551
60	3.3	2	113553
310	3.3	2	113555
30	3.5	2	043514
40	3.5	2	043516
45	3.5	2	113557
50	3.5	2	109811
310	3.5	2	113564
30	3.7	2	036174
40	3.7	2	113565
50	3.7	2	113566
55	3.7	2	113567
70	3.7	2	113568
310	3.7	2	113569
20	4	2	111032
30	4	2	043521
35	4	2	113572
40	4	2	043523
45	4	2	113574
50	4	2	111046
55	4	2	113576
60	4	2	111049

L mm	W mm	T mm	T07MF-W
65	4	2	113577
310	4	2	113578
50	4.2	2	036811
60	4.2	2	113582
70	4.2	2	113583
310	4.2	2	113584
30	4.5	2	111037
40	4.5	2	111041
45	4.5	2	111045
50	4.5	2	111047
55	4.5	2	113585
60	4.5	2	111050
65	4.5	2	113590
70	4.5	2	113591
310	4.5	2	113592
310	4.7	2	113593
40	5	2	043525
45	5	2	113594
50	5	2	113595
55	5	2	113596
60	5	2	111051
65	5	2	113597
310	5	2	113598
30	5.2	2	111038
30	5.5	2	111039
40	5.5	2	111042
50	5.5	2	111048
60	5.5	2	113599
65	5.5	2	113600
310	5.5	2	113773
40	5.8	2	111043
60	5.8	2	111052
310	5.8	2	113601
60	6	2	113602
65	6	2	113603
310	6	2	113604
60	6.2	2	111053
310	6.5	2	113605
310	7	2	113606
310	7.5	2	113607

EN Strobe blanks for circular saws  
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ST	L		W		T		T12M-CR
	inch	mm	inch	mm	inch	mm	
ST1120	1.000	25.4	0.120	3.0	0.125	3.2	113528
ST1130	1.000	25.4	0.130	3.3	0.125	3.2	113530
ST1140	1.000	25.4	0.140	3.6	0.125	3.2	113534
ST1150	1.000	25.4	0.150	3.8	0.125	3.2	113535
ST1160	1.000	25.4	0.160	4.1	0.125	3.2	113536
ST1170	1.000	25.4	0.170	4.3	0.125	3.2	113537
ST1180	1.000	25.4	0.180	4.6	0.125	3.2	113538
ST1190	1.000	25.4	0.190	4.8	0.125	3.2	113539
ST1200	1.000	25.4	0.200	5.1	0.125	3.2	113540
ST1210	1.000	25.4	0.210	5.3	0.125	3.2	113543
ST1220	1.000	25.4	0.220	5.6	0.125	3.2	113545
ST1230	1.000	25.4	0.230	5.8	0.125	3.2	113547
ST1240	1.000	25.4	0.240	6.1	0.125	3.2	113548
ST1250	1.000	25.4	0.250	6.4	0.125	3.2	113550
ST1260	1.000	25.4	0.260	6.6	0.125	3.2	113552
ST1270	1.000	25.4	0.270	6.9	0.125	3.2	114089
ST1280	1.000	25.4	0.280	7.1	0.125	3.2	113554
ST1290	1.000	25.4	0.290	7.4	0.125	3.2	113556

ST	L		W		T		T12M-CR
	inch	mm	inch	mm	inch	mm	
ST2120	1.250	31.8	0.120	3.0	0.125	3.2	113558
ST2130	1.250	31.8	0.130	3.3	0.125	3.2	113559
ST2140	1.250	31.8	0.140	3.6	0.125	3.2	113560
ST2150	1.250	31.8	0.150	3.8	0.125	3.2	113561
ST2160	1.250	31.8	0.160	4.1	0.125	3.2	113562
ST2170	1.250	31.8	0.170	4.3	0.125	3.2	113563
ST2180	1.250	31.8	0.180	4.6	0.125	3.2	113570
ST2190	1.250	31.8	0.190	4.8	0.125	3.2	113571
ST2200	1.250	31.8	0.200	5.1	0.125	3.2	113573
ST2210	1.250	31.8	0.210	5.3	0.125	3.2	113575
ST2220	1.250	31.8	0.220	5.6	0.125	3.2	113579
ST2230	1.250	31.8	0.230	5.8	0.125	3.2	113580
ST2240	1.250	31.8	0.240	6.1	0.125	3.2	113581
ST2250	1.250	31.8	0.250	6.4	0.125	3.2	113586
ST2260	1.250	31.8	0.260	6.6	0.125	3.2	113587
ST2280	1.250	31.8	0.280	7.1	0.125	3.2	113588
ST2290	1.250	31.8	0.290	7.4	0.125	3.2	113589



- EN Brazing alloys and fluxes
- DE Lot und Flussmittel
- FR Alliages et flux de brasage
- IT Leghe brasanti e disossidanti
- ES Aleaciones y fundentes para soldadura fuerte

EN TriMet - sandwich brazing alloy strip, on spool  
 DE TriMet - Schichtlot, auf Spule  
 FR TriMet - alliage de brasage „sandwich“ en bande, sur bobine  
 IT TriMet - lega brasante nastro trimetallico, in bobina  
 ES TriMet - cinta tipo sandwich para soldadura fuerte, en carretes

Art-No.	W mm	T mm	weight kg	Features
122449	2.0	0.3	1.0 - 1.5	EN Trimetal shim DE Kupfer-Zwischenschicht FR Trois feuilles avec le Cu en couche intermédiaire IT Trilamina con strato intermedio di rame ES Con la lámina de Cu intermedia
122450	2.5	0.3	1.0 - 1.5	
122451	3.0	0.3	1.0 - 1.5	
122452	3.2	0.3	1.0 - 2.0	
122453	3.5	0.3	1.5 - 2.0	
122454	4.0	0.3	1.5 - 2.0	

EN TriMet - sandwich brazing alloy strip for special applications, in coils  
 DE TriMet - Lot für Sonderanwendungen, im Bunde  
 FR TriMet - alliage de brasage „sandwich“ pour applications spéciales, en bande  
 IT TriMet - lega brasante nastro trimetallico per applicazioni speciali, in bobina  
 ES TriMet - cinta tipo sandwich para soldadura fuerte, en carretes

Art-No.	W mm	T mm	weight kg	
122456	40	0.8	1.0	
122457	50	0.8	1.0	
122458	60	0.8	1.0	
122459	70	0.8	1.0	

EN AutoFlux - brazing flux paste for automatic dispensing  
 DE AutoFlux - Hartlot Flussmittel-Paste für Maschinendosierung  
 FR AutoFlux - flux de brasage en pâte pour mise en oeuvre en automatique  
 IT AutoFlux - disossidante in pasta per brasatura adatto per la distribuzione automatica  
 ES AutoFlux - aleación en pasta con fundente para aplicar automáticamente

Art-No.			weight kg	
115300			1.5	

EN ManuFlux - brazing flux paste for manual applications  
 DE ManuFlux - Hartlot Flussmittel-Paste für den Auftrag von Hand  
 FR ManuFlux - flux de brasage en pâte pour utilisation manuelle  
 IT ManuFlux - disossidante in pasta per brasatura per applicazione manuale  
 ES ManuFlux - aleación en pasta con fundente para aplicar manualmente

Art-No.			weight kg	
115301			1.0	





**TIGRA**

TOOLS CUT BETTER WITH TIGRA





- EN Carbide for brazed tools
- DE Hartmetall für gelötete Fräser
- FR Plaquettes en carbure à braser
- IT Metallo duro per frese saldobrasate
- ES Metal duro para herramienta soldada

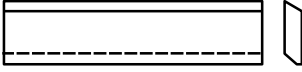
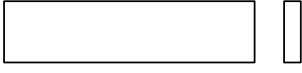
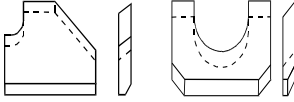
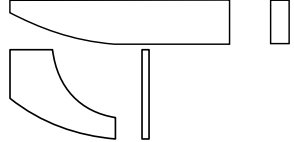
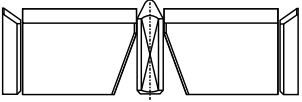
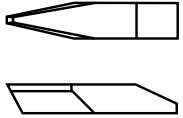
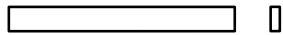
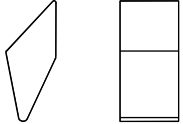


**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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EN Carbide for brazed tools  
 DE Hartmetall für gelötete Fräser  
 FR Plaquettes en carbure à braser  
 IT Metallo duro per frese saldobrasate  
 ES Metal duro para herramienta soldada

	<p>EN Carbide strips for brazed cutters          DE Hartmetallplatten zur Fräserbestückung          FR Plaquettes en carbure à braser          IT Placchette in metallo duro per frese          ES Placas de metal duro para equipar fresas</p>	<p><i>metric</i> <i>metrisch</i> <i>métrique</i> <i>metrico</i> <i>métrico</i></p> <p><b>102 - 105</b></p>
	<p>EN STB strips for brazed cutters          DE Hartmetallplatten zur Fräserbestückung          FR Plaquettes en carbure à braser          IT Placchette in metallo duro per frese          ES Placas de metal duro para equipar fresas</p>	<p><i>inch</i></p> <p><b>106</b></p>
	<p>EN Preforms for brazed cutters          DE Formplatten zum Löten          FR Plaquettes en carbure à braser          IT Placchette per frese saldobrasate          ES Placas para herramientas soldadas</p>	<p><b>107</b></p>
	<p>EN Carbide tips for router bits          DE HM-Rohlinge für Oberfräser          FR Ébauches pour mèches à défoncer          IT Placchette sagomate per punte          ES Placas de metal duro para equipar fresas</p>	<p><b>108</b></p>
	<p>EN Drill bits          DE Zylinderkopfbohrer          FR Mèches à façonner          IT Punte per cerniere          ES Brocas estrella</p>	<p><b>109 - 110</b></p>
	<p>EN Finger joint cutters          DE Minizinkenfräser          FR Fraises mini-aboutages          IT Frese per giunzioni          ES Fresas para ensamblar</p>	<p><b>110</b></p>
	<p>EN Tips for T.C.T. knives          DE Rohlinge für HW-bestückte Messer          FR Plaquettes pour fabriquer des fers rapportées carbure          IT Placchette per fabbricare coltelli riportati HW          ES Placas para equipar cuchillas con metal duro</p>	<p><b>111</b></p>
	<p>EN Tips for multicut planers          DE Zähne für Vielzahnfräser          FR Dents spéciales          IT Dentelli per frese multitaglienti          ES Dientes para fresas multicorte</p>	<p><b>111</b></p>



- EN Carbide for brazed tools - Carbide grades and their applications  
 DE Hartmetall für gelötete Fräser - Hartmetallsorten und ihre Anwendungen  
 FR Plaquettes en carbure à braser - Les nuances de carbures et leurs applications  
 IT Metallo duro per frese saldobrasate - I tipi di metallo duro e le loro applicazioni  
 ES Metal duro para herramienta soldada - Calidades de metal duro y sus aplicaciones

EN	TIGRA grade	ISO	USA	Hardness	Toughness	Bending strength
DE	TIGRA - Sorte	ISO	USA	Härte	Zähigkeit	Biegebruchfestigkeit
FR	Nuance TIGRA	ISO	USA	Dureté	Ténacité	Résistance à la flexion
IT	Tipo TIGRA	ISO	Stati Uniti	Durezza	Tenacità	Resistenza flessionale
ES	Calidad TIGRA	ISO	EE.UU.	Dureza	Tenacidad	Resistencia a la flexión
	<b>T03F-CR</b>	<b>K01</b>	<b>C4+</b>	↑	↓	↓
	<b>T04F-CR</b>	<b>K05</b>	<b>C4</b>	↔	↔	↔
	<b>T07MF-CR</b> UNIVERSAL	<b>K20 - K30</b>	<b>C2 - C3</b>	↔	↑	↔
	<b>T07MF-W</b>	<b>K20 - K30</b>	<b>C2 - C3</b>	↔	↔	↔
	<b>T10MG</b>	<b>K10 - K40</b>	<b>C3+</b>	↔	↔	↑
	<b>TL15*</b>	<b>K10 - K40</b>	<b>C2+</b>	↓	↑	↑

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo

\* Special binder - Spezialbinder - Liant spécial - Legante speciale - Composición especial

EN For technical data, please refer to the pages 4-5.

DE Die technischen Daten entnehmen Sie bitte den Seiten 4-5.

FR Pour les données techniques, veuillez voir aux pages 4-5.

Plastics Plastik Plastiques Plastica Plásticos	HDF HDF HDF HDF HDF	MDF MDF MDF MDF MDF	Chipboard Spanplatte Panneaux de particule Truciolare Panel de aglomerado	Hardwood Hartholz Bois dur Legno duro Madera dura	Softwood Weichholz Bois tendre Legno tenero Madera blanda	Main usage Hauptverwendung Usage principal Uso principale Uso principal
✓	✓	✓	○	○	☐	EN Board materials DE Plattenmaterial FR Matériaux de panneaux IT Pannelli ES Materiales de paneles
✓	○	✓	✓	✓	○	EN Abrasive hard woods DE Abrasive Harthölzer FR Bois durs abrasifs IT Legni duri abrasivi ES Madera dura abrasiva
○	○	○	✓	✓	✓	EN Universal grade DE Universelle Sorte FR Nuance universelle IT Tipo universale ES Calidad universal
○	○	○	○	✓	✓	EN Economic universal grade DE Preiswerte Universalsorte FR Nuance universelle peu coûteuses IT Tipo universale a basso costo ES Calidad universal de bajo costo
☐	☐	☐	○	✓	✓	EN Wood DE Holz FR Bois IT Legno ES Madera
☐	☐	☐	☐	✓	✓	EN Wood, higher clearance angles DE Holz, größere Freiwinkel FR Bois, plus grands angles de dépouille IT Legno, angoli di spoglia grandi ES Madera, ángulos largos

- ✓ best performance
- ✓✓ very good performance
- acceptable
- ☐ not suitable



- EN Carbide strips for brazed cutters
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- FR Plaquettes en carbure à braser
- IT Placchette in metallo duro per frese
- ES Placas de metal duro para equipar fresas

T = 2-4 mm

L mm	W mm	T mm	T04F-CR	T07MF-CR	T10MG	T07MF-W
310	4	2	100307	131017	054405	
310	5	2	100308	131018	100549	
310	6	2	100309	131019	029130	
310	8	2	101107	131020	029131	
310	10	2	100710	131021	029132	
310	12	2	100709	131022	029133	
310	14	2	101637	131023	029136	
310	15	2	108730	131024	054311	
310	16	2	108731	131025	029138	
310	18	2	108732	131026	029139	
310	20	2	055678	131027	029140	
310	22	2	108737	131028	038192	
310	25	2	055679	131029	029141	
310	30	2	055680	131030	031186	
310	3	3			110301	
310	5	3	121840	131031	054598	
310	6	3	100310	131032	024511	
310	8	3	100311	131033	024515	
310	10	3	101638	131034	024519	140203
310	12	3	100619	131036	024523	
310	13	3	121841	131038	041839	
310	14	3	108738	131040	024527	
310	15	3	100312	131042	041072	
310	16	3	105249	131044	024531	140207
310	18	3	108739	131046	024535	
310	20	3	100313	131048	024539	
310	25	3	108740	131050	024543	
310	30	3	108741	131053	024547	
310	4	4			110302	
310	8	4	100626	131055	024566	147956
310	10	4	101106	131057	024570	147509
310	12	4	100625	131060	024574	144792
310	14	4	102820	131062	024578	140212
310	15	4	100315	131068	103213	
310	16	4	100621	131071	024582	147600
310	18	4	100316	131074	024586	147601
310	20	4	101729	131077	024590	147602
310	22	4	100317	131081	047082	
310	25	4	100318	131084	024594	140219
310	28	4	106131	131086	103214	
310	30	4	105525	131088	024598	
310	35	4	108742	131091	051786	



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T = 5-6 mm

L mm	W mm	T mm	T04F-CR	T07MF-CR	T10MG	T07MF-W
310	5	5			110303	
310	8	5	108743	131101	024627	
310	10	5	108768	131102	024631	
310	12	5	100319	131103	024635	140225
310	14	5	102229	131106	024639	
310	15	5	100627	131109	039582	
310	16	5	108744	131112	024643	
310	18	5	100321	131113	024647	
310	20	5	100322	131119	024651	
310	25	5	100323	131121	024655	
310	30	5	108745	131123	024659	
310	35	5	108746	131127	051788	
170	40	5	108747	131130	050106	
310	10	6		131133	024680	
310	16	6		131135	024692	
310	20	6		131137	024700	
310	25	6		131140	024704	
310	30	6		131142	024708	



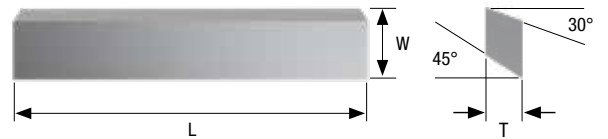


- EN Carbide strips for brazed cutters
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400 mm

L mm	W mm	T mm	T04F-CR	T07MF-CR	T10MG
310	8	3	108748	131035	024725
310	10	3	108749	131037	024729
310	12	3	108750	131039	024733
310	14	3	108752	131041	024737
310	15	3	108753	131043	041080
310	16	3	108754	131045	024741
310	18	3	108755	131047	024745
310	20	3	108756	131049	024749
310	25	3	108757	131051	024753
310	30	3	108758	131052	024757
310	8	4	108759	131054	024765
310	10	4	108760	131056	024769
310	12	4	108761	131058	024773
310	14	4	108762	131059	024777
310	15	4	108763	131061	041081
310	16	4	108703	131063	024781
310	18	4	108764	131064	024785
310	20	4	102884	131065	024789
310	22	4	102885	131066	041082
310	25	4	102886	131067	024793
310	28	4	102887	131069	041083
310	30	4	108765	131070	024797
310	35	4	108766	131072	041084
310	8	5	108767	131073	024805
310	10	5	108769	131075	024809
310	12	5	108771	131076	024813
310	14	5	108772	131078	024817
310	15	5	108773	131080	103218
310	16	5	108704	131082	024821
310	18	5	108774	131083	024825
310	20	5	108705	131085	024829
310	25	5	108706	131087	024833
310	30	5	108707	131089	024837
310	35	5	108775	131090	051793
170	40	5	115072	131092	029264
310	10	6		131093	024849
310	12	6		131094	024853
310	16	6		131096	024861
310	20	6		131097	024869
310	25	6		131098	024873
310	30	6		131099	024877

L mm	W mm	T mm	T07MF-W
400	8	3	152489
400	10	3	152490
400	12	3	152491
400	14	3	152492
400	16	3	152493
400	18	3	152494
400	20	3	152495
400	10	4	152496
400	12	4	152497
400	14	4	152498
400	16	4	152499



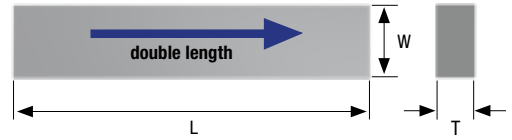
- EN Carbide strips for brazed cutters
- DE Hartmetallplatten zur Fräserbestückung
- FR Plaquettes en carbure à braser
- IT Placchette in metallo duro per frese
- ES Placas de metal duro para equipar fresas

400 mm

L mm	W mm	T mm	T04F-CR	T07MF-CR	T10MG
310	8	3	108777	131104	024885
310	10	3	108778	131105	024889
310	12	3	108779	131107	024893
310	14	3	108780	131108	024897
310	15	3	108781	131110	103222
310	16	3	108782	131111	024901
310	18	3	108783	131114	024905
310	20	3	108784	131115	024909
310	25	3	108785	131117	024913
310	30	3	108786	131118	024917
310	8	4	100629	131120	024931
310	10	4	108787	131122	024935
310	12	4	103853	131124	024939
310	14	4	102230	131125	024943
310	15	4	108788	131128	050690
310	16	4	103854	131129	024947
310	18	4	108789	131131	024951
310	20	4	108790	131132	024955
310	22	4	108791	131134	103223
310	25	4	108792	131136	024959
310	28	4	108793	131138	101527
310	30	4	108794	131139	024963
310	35	4	108797	131141	051797
310	8	5	108798	131151	024978
310	10	5	054402	131153	024982
310	12	5	055663	131154	024986
310	14	5	102563	131156	024990
310	15	5	100628	131158	035897
310	16	5	106180	131159	024994
310	18	5	004371	131161	024998
310	20	5	054231	131163	025002
310	25	5	054439	131165	025006
310	30	5	054677	131166	025010
310	35	5	056072	131168	051799
170	40	5	053297	131170	039094
310	10	6	054403	131171	025023
310	12	6	004372	131173	025027
310	16	6	108799	131174	025035
310	20	6	054323	131176	025043
310	25	6	108800	131177	025047
310	30	6	004375	131179	025051

L mm	W mm	T mm	T07MF-W
400	8	3	152500
400	10	3	152501
400	12	3	152502
400	14	3	152503
400	16	3	152504
400	10	4	152505
400	12	4	152506
400	16	4	152507
400	20	4	152508
400	16	5	152509
400	20	5	152510





- EN STB strips for brazed cutters
- DE Hartmetallplatten zur Fräserbestückung
- FR Plaquettes en carbure à braser
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US style - inch

Style	L	W	T	T07MF-CR	T10MG
	inch	inch	inch		
DSTB 312	12 1/4	3/8	3/32	131322	128447
DSTB 316	12 1/4	1/2	3/32	131323	128449
DSTB 320	12 1/4	5/8	3/32	131324	128451
DSTB 324	12 1/4	3/4	3/32	131327	128453
DSTB 412	12 1/4	3/8	1/8	131328	128455
DSTB 416	12 1/4	1/2	1/8	131329	128457
DSTB 420	12 1/4	5/8	1/8	131330	128459
DSTB 424	12 1/4	3/4	1/8	131331	128461
DSTB 428	12 1/4	7/8	1/8	131332	128463
DSTB 432	12 1/4	1	1/8	131333	128465
DSTB 440	12 1/4	1 1/4	1/8		139794
DSTB 512	12 1/4	3/8	5/32	137611	142726
DSTB 516	12 1/4	1/2	5/32	131334	128467
DSTB 520	12 1/4	5/8	5/32	137612	133132
DSTB 524	12 1/4	3/4	5/32	137613	133133
DSTB 532	12 1/4	1	5/32	137614	133134
DSTB 540	12 1/4	1 1/4	5/32	142728	133135



- EN Preforms for brazed cutters  
 DE Formplatten zum Löten  
 FR Plaquettes en carbure à braser  
 IT Placchette per frese saldobrasate  
 ES Placas para herramientas soldadas

**EN** Using preformed tips for your brazed cutters you will save the expensive roughing time and grinding wheel cost. TIGRA can supply almost any kind of preformed tip according to the customer's drawing or DXF file. Small quantities for urgent special tools can be delivered by our quick delivery service within one week.

**DE** Durch die Verwendung vorgeformter Hartmetallplatten sparen Sie teure Schruppzeiten und Kosten für die Schleifscheiben. TIGRA liefert nahezu jede vorgeformte Platte nach Kundenzeichnung oder DXF-Datei. Kleinserien für eilige Sonderwerkzeuge liefert unser Schnelldienst innerhalb von einer Woche.

**FR** Grâce à l'utilisation de plaquettes en carbure préprofilées, plus besoin de coûteuses opérations de dégrossissage ni des frais élevés pour les meules. TIGRA peut fournir pratiquement n'importe quelle plaquette préprofilée d'après le dessin du client ou un fichier DXF. Notre services d'urgence livre de petites séries pour les outils spéciaux urgents en une semaine.

**IT** Con l'uso delle placchette presagomate risparmierete non solo la sgrossatura bensì anche i costi delle mole. TIGRA può fornire quasi ogni tipo di placchette presagomate a seconda delle Vostre richieste ed esigenze (documenti DXF; disegni). Per ordini urgenti di piccole quantità riguardanti utensili particolari siamo in grado di fornirvi la merce nell'arco di una settimana.

**ES** El empleo de placas de metal duro preformadas le permitirá ahorrarse la costosa fase de desbastado y reducir el consumo de muelas. TIGRA puede fabricar prácticamente cualquier tipo de placa preformada en base al plano o fichero DXF del cliente. Si necesitara una herramienta especial con urgencia, nuestro servicio rápido es capaz de fabricar un lote de pocas unidades en una semana.

**EN** With chamfers in the profile and/or at the bottom.

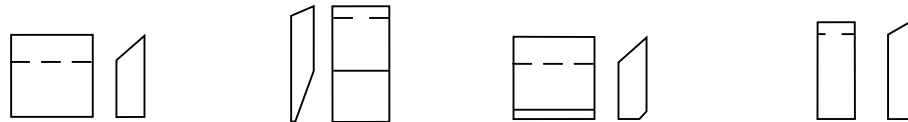
**DE** Mit Fasen im Profil und/oder an der Anschlagkante.

**FR** Avec des biseaux dans le profil et/ou au bord de butée.

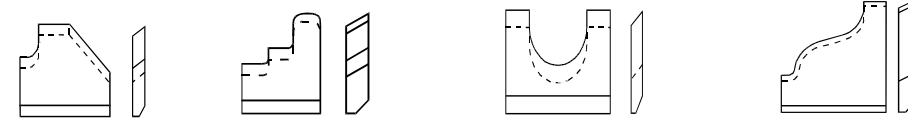
**IT** Con smussi nel profilo e/o nello spigolo di battuta.

**ES** Con tanto un perfil, como la base biselados.

EN Profile group 1  
 DE Profilgruppe 1  
 FR Groupe de profil 1  
 IT Gruppo profilo 1  
 ES Grupo de perfiles 1



EN Profile group 2  
 DE Profilgruppe 2  
 FR Groupe de profil 2  
 IT Gruppo profilo 2  
 ES Grupo de perfiles 2



EN Profile group 3  
 DE Profilgruppe 3  
 FR Groupe de profil 3  
 IT Gruppo profilo 3  
 ES Grupo de perfiles 3



**EN** Without any chamfers and therefore less expensive!

**DE** Keinerlei Fasen. Der Preis dafür ist deutlich günstiger!

**FR** Sans des biseaux. Le prix de ce modèle est de ce fait bien plus avantageux!

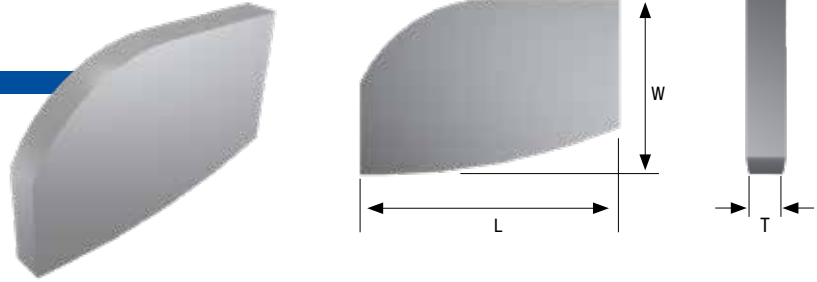
**IT** Sprovisto di smussi ha pertanto un prezzo notevolmente inferiore!

**ES** Ningun bisel. El precio de este modelo sera muy ventajoso para vds!

EN Profile group 4  
 DE Profilgruppe 4  
 FR Groupe de profil 4  
 IT Gruppo profilo 4  
 ES Grupo de perfiles 4







- EN Preforms for router bits
- DE Platten für Oberfräser
- FR Plaquettes pour défonceuse
- IT Placchette sagomate per punte
- ES Placas para fresas de cajeadora

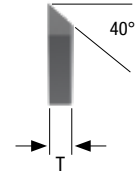
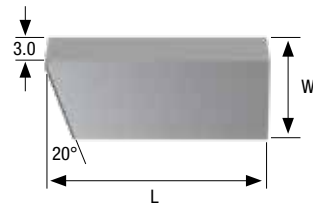
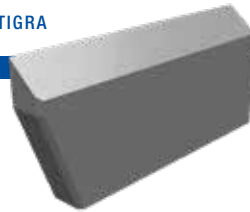
**EN** Carbide tips for router bits are available preformed in almost any sizes or executions, as per customer's drawing or DXF file, also for small quantities. Your production cost for router bits will be reduced by saving the cost for cutting, wire cutting, roughing and diamond wheels. Small quantities for urgent special tools are supplied from our quick delivery service within only one week.

**DE** Hartmetallplatten für Oberfräser sind vorgeformt in fast allen Größen und Ausführungen nach Kundenzeichnung oder DXF-Datei lieferbar, auch für Kleinserien. So sparen Sie auch bei der Herstellung von Oberfräsern die Kosten für das Trennen, Drahtschneiden oder Schruppen sowie Kosten für Schleifscheiben. Kleinserien für eilige Sonderwerkzeuge liefert unser Schnelldienst innerhalb von einer Woche.

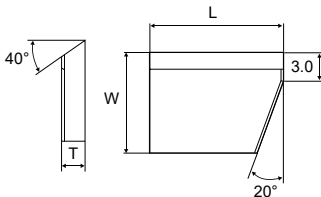
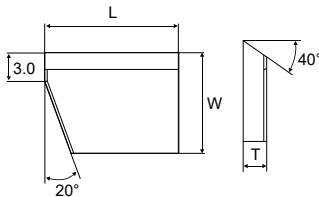
**FR** Les plaquettes en carbure pour défonceuse peuvent être livrées préfaçonnées dans pratiquement toutes les tailles et exécutions d'après le dessin du client ou un fichier DXF, même en petites séries. Vous économisez ainsi les frais de tronçonnage, de meules abrasive même lors de la fabrication d'outil pour défonceuses. Notre service d'urgence livre de petites séries pour les outils spéciaux urgents en une semaine.

**IT** Le placchette sagomate per punte sono disponibili in quasi ogni misura secondo disegno o documento DXF, anche in quantità minime. Risparmiate i costi di tagli, sgrossatura e delle mole per la produzione delle punte. Per ordini urgenti di piccole quantità riguardanti utensili particolari siamo in grado di fornirvi la merce in una settimana.

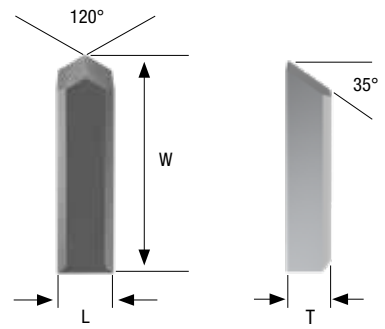
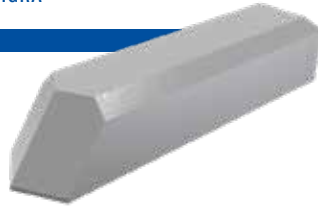
**ES** Podemos suministrar placas de metalo duro preformadas para fresas de cajeadora de cualquier tamaño y modelo en base al plano o diseño en formato DXF del cliente, incluso lotes de volumen reducido. Se ahorrará así las operaciones de corte, electroerosión o debastado y podrá reducir el consumo de muelas. Si necesitara una herramienta especial con urgencia, nuestro servicio rápido en capaz de fabricar un lote de tamaño reducido en una semana.

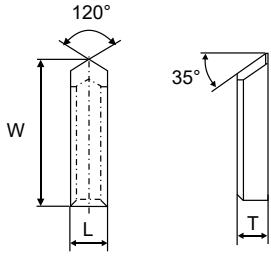
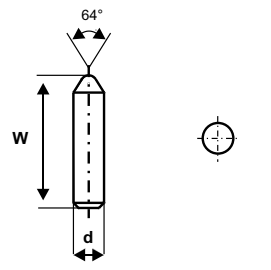
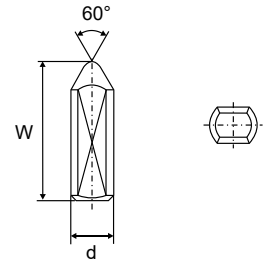


EN Drill bits  
 DE Zylinderkopfbohrer  
 FR Mèches à façonner  
 IT Punta per cerniere  
 ES Brocas estrella

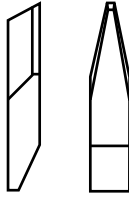
	diam	L mm	W mm	T mm	T07MF-CR
 <p>                     EN left                      DE links                      FR gauche                      IT sinistra                      ES izquierda                 </p>	15.0	6.5	8.5	2.5	032657
	16.0	7.0	10.5	2.5	032658
	18.0	8.0	10.5	2.5	032659
	20.0	9.0	10.5	2.5	032660
	22.0	10.0	10.5	2.5	032661
	23.0	10.5	10.5	2.5	032662
	24.0	11.0	10.5	2.5	032663
	25.0	11.5	10.5	2.5	032664
	26.0	12.0	10.5	2.5	032665
	28.0	13.0	10.5	2.5	032666
	30.0	14.0	10.5	2.5	032667
	32.0	15.0	10.5	2.5	032668
	34.0	16.0	10.5	2.5	032669
	35.0	16.5	10.5	2.5	032670
	38.0	18.0	10.5	2.5	032671
	40.0	19.0	10.5	2.5	032672
	45.0	21.5	10.5	2.5	032151
	50.0	24.0	10.5	2.5	032673
	55.0	26.5	10.5	2.5	032674
	60.0	29.0	10.5	2.5	032675
 <p>                     EN right                      DE rechts                      FR droite                      IT destra                      ES derecha                 </p>	15.0	6.5	8.5	2.5	032676
	16.0	7.0	10.5	2.5	032677
	18.0	8.0	10.5	2.5	032678
	20.0	9.0	10.5	2.5	032679
	22.0	10.0	10.5	2.5	032680
	23.0	10.5	10.5	2.5	032681
	24.0	11.0	10.5	2.5	032682
	25.0	11.5	10.5	2.5	032683
	26.0	12.0	10.5	2.5	032684
	28.0	13.0	10.5	2.5	032685
	30.0	14.0	10.5	2.5	032686
	32.0	15.0	10.5	2.5	032687
	34.0	16.0	10.5	2.5	032688
	35.0	16.5	10.5	2.5	032689
	38.0	18.0	10.5	2.5	032690
	40.0	19.0	10.5	2.5	032691
	45.0	21.5	10.5	2.5	032692
	50.0	24.0	10.5	2.5	032693
	55.0	26.5	10.5	2.5	032694
	60.0	29.0	10.5	2.5	032695

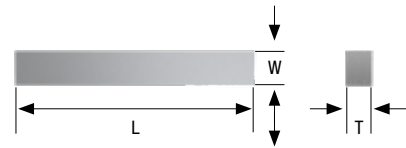
EN Drill bits  
 DE Zylinderkopfbohrer  
 FR Mèches à façonner  
 IT Punta per cerniere  
 ES Brocas estrella



	d	L mm	W mm	T mm	T07MF-CR
		3.0	12.0	2.5	032702
		4.0	13.0	2.5	032703
	3.0		13.0		055341
	4.0		13.0		032704

EN Finger joint cutters  
 DE Minizinkenfräser  
 FR Fraises mini-aboutages  
 IT Frese per giunzioni  
 ES Fresas para ensamblar

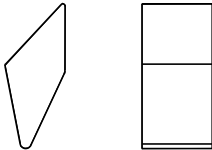
	L mm	W mm	T mm	T07MF-CR	T10MG
	4.5	28.0	4.1	029105	041997
	5.0	28.0	4.1	107858	107859



- EN Tips for T.C.T. knives  
 DE Rohlinge für HW-bestückte Messer  
 FR Plaquettes pour fabriquer des fers rapportées carbure  
 IT Placchette per fabbricare coltelli riportati HW  
 ES Placas para equipar cuchillas con metal duro

L mm	W mm	T mm	T10MF
1052	11.2	1.3	151256

- EN Tips for multicut planers  
 DE Zähne für Vielzahnfräser  
 FR Dents spéciales  
 IT Dentelli per frese multitaglienti  
 ES Dientes para fresas multicorte

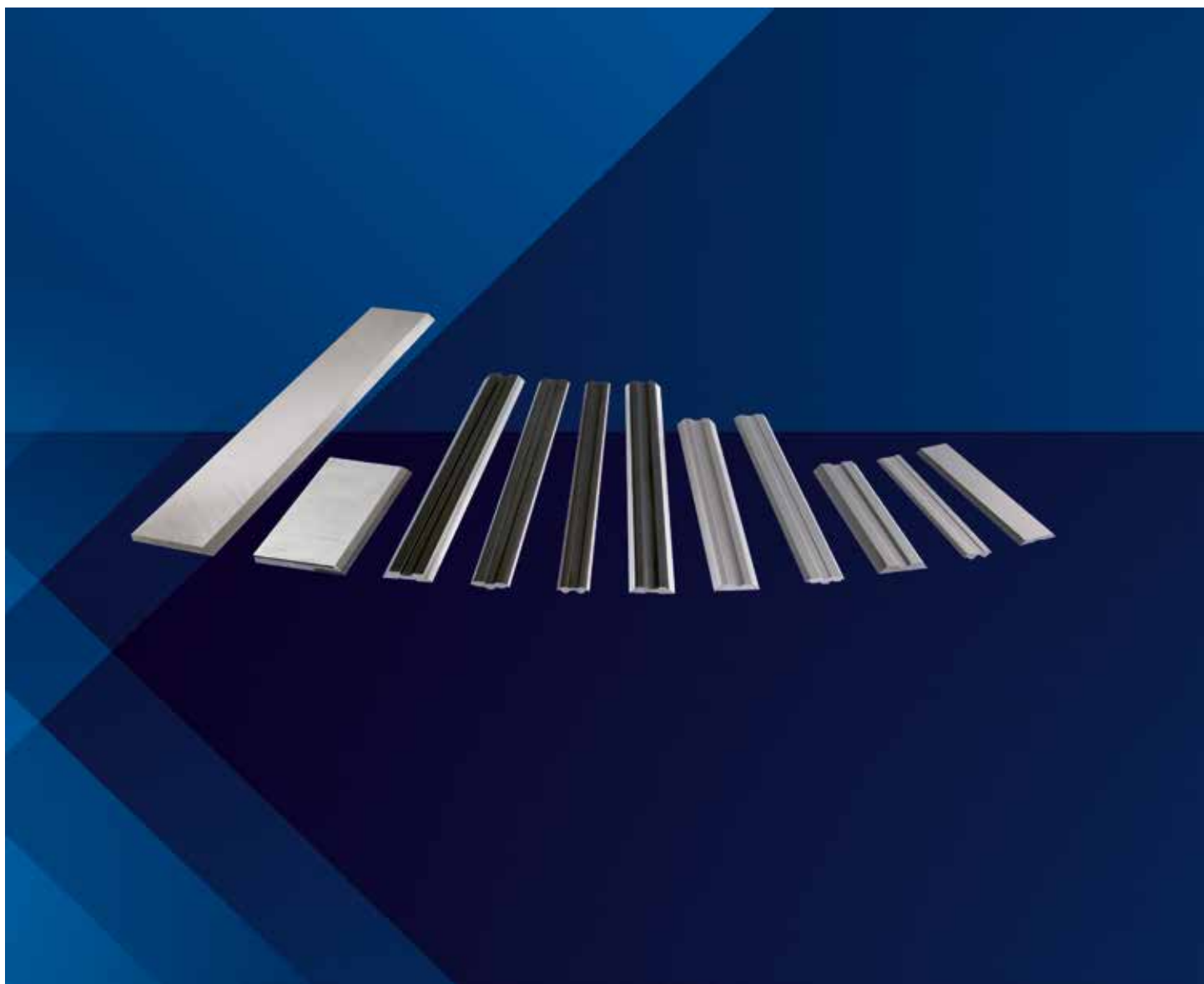
	L mm	W mm	T mm	T10MG
	12.8	6.2	5.3	029090
	12.8	8.2	5.3	114884
	12.8	6.2	5.3	112940

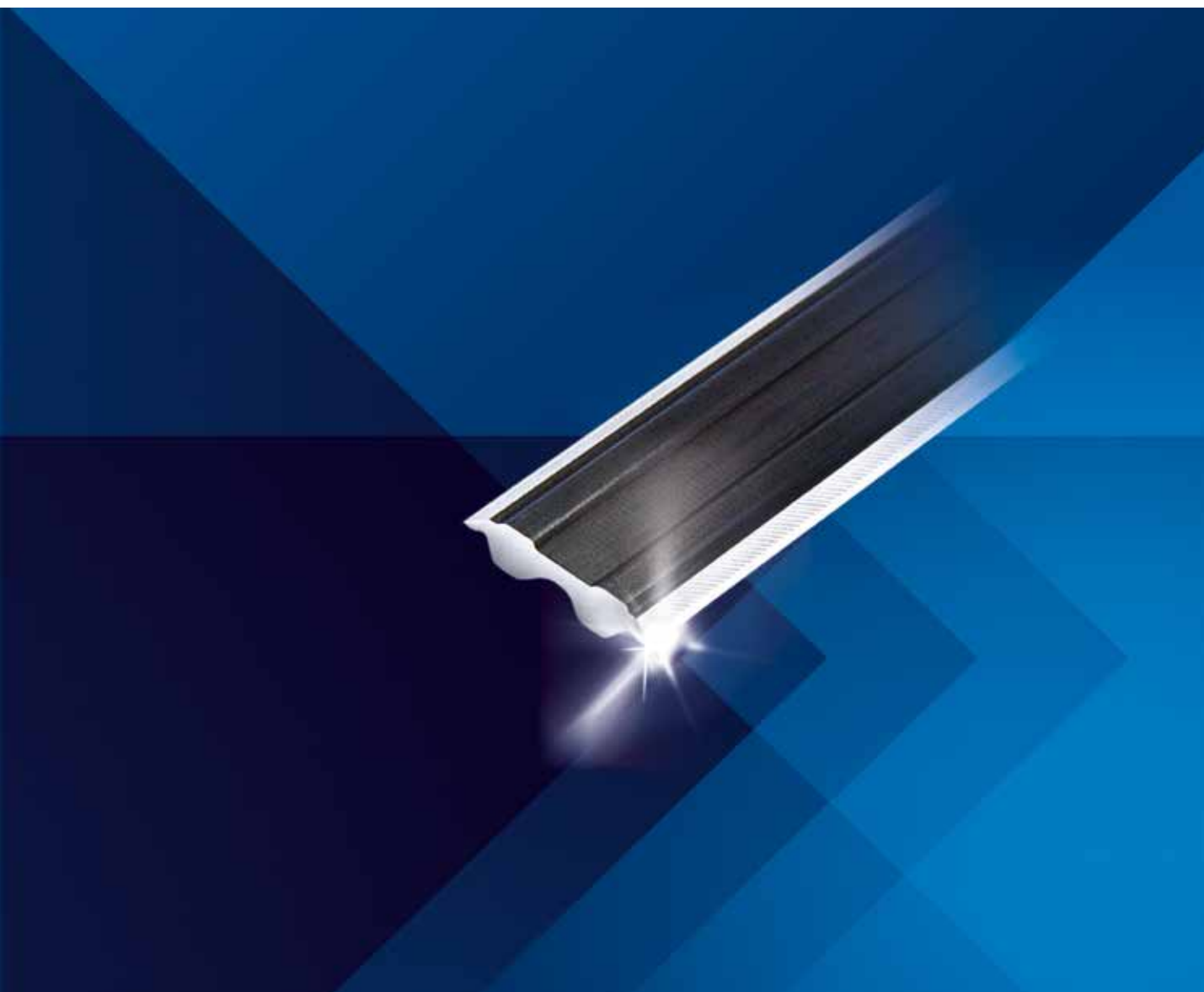




**TIGRA**

TOOLS CUT BETTER WITH TIGRA





EN Planer knives  
DE Hobelmesser  
FR Couteaux à raboter  
IT Coltelli da pialla  
ES Cuchillas para cepillar

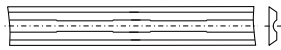


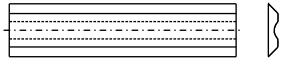

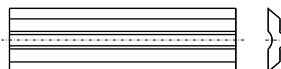
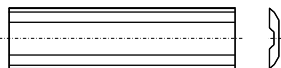
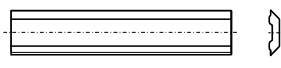
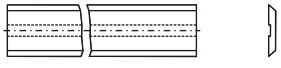
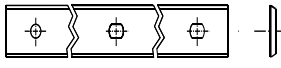

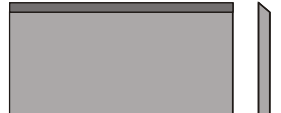


**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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EN Planer knives  
 DE Hobelmesser  
 FR Couteaux à raboter  
 IT Coltelli da pialla  
 ES Cuchillas para cepillar

	<p>EN Reversible knives for portable planers            DE Wendeschneidplatten für Handhobel            FR Plaquettes pour rabots électro portatifs            IT Coltelli per piallatrici portatili            ES Cuchillas para acepilladoras electricas</p>	118
	<p>EN Planer knives for system Tersa            DE Hobelmesser für System Tersa            FR Couteaux à raboter pour système Tersa            IT Coltelli da pialla per sistema Tersa            ES Cuchillas para cepillar para sistema Tersa</p>	119 - 120
	<p>EN Planer knives for system Centrolock            DE Hobelmesser für System Centrolock            FR Couteaux à raboter pour système Centrolock            IT Coltelli da pialla per sistema Centrolock            ES Cuchillas para cepillar para sistema Centrolock</p>	121
	<p>EN Planer knives for system Terminus            DE Hobelmesser für System Terminus            FR Couteaux à raboter pour système Terminus            IT Coltelli da pialla per sistema Terminus            ES Cuchillas para cepillar para sistema Terminus</p>	122
	<p>EN Planer knives for system Centrofix / Centrostar / Quickfix            DE Hobelmesser für System Centrofix / Centrostar / Quickfix            FR Couteaux à raboter pour système Centrofix / Centrostar / Quickfix            IT Coltelli da pialla per sistema Centrofix / Centrostar / Quickfix            ES Cuchillas para cepillar para sistema Centrofix / Centrostar / Quickfix</p>	123
	<p>EN Planer knives for system Variplan            DE Hobelmesser für System Variplan            FR Couteaux à raboter pour système Variplan            IT Coltelli da pialla per sistema Variplan            ES Cuchillas para cepillar para sistema Variplan</p>	124
	<p>EN Planer knives for system Sinus            DE Hobelmesser für System Sinus            FR Couteaux à raboter pour système Sinus            IT Coltelli da pialla per sistema Sinus            ES Cuchillas para cepillar para Sinus</p>	125
	<p>EN Planer knives for system Enshin            DE Hobelmesser für System Enshin            FR Couteaux à raboter pour système Enshin            IT Coltelli da pialla per sistema Enshin            ES Cuchillas para cepillar para sistema Enshin</p>	126
	<p>EN Planer knives for system Bulldozer            DE Hobelmesser für System Bulldozer            FR Couteaux à raboter pour système Bulldozer            IT Coltelli da pialla per sistema Bulldozer            ES Cuchillas para cepillar para sistema Bulldozer</p>	127
	<p>EN Planer knives for system Barke / Brück / ESTA            DE Hobelmesser für System Barke / Brück / ESTA            FR Couteaux à raboter pour système Barke / Brück / ESTA            IT Coltelli da pialla per sistema Barke / Brück / ESTA            ES Cuchillas para cepillar para sistema Barke / Brück / ESTA</p>	128
	<p>EN HSS / Matrix planer knives            DE HSS / Matrix-Hobelmesser            FR Fers de raboteuse HSS / Matrix            IT Coltelli da pialla HSS / Matrix            ES Cuchillas en HSS / Matrix</p>	129 - 131
	<p>EN T.C.T. and solid carbide planer knives            DE HM-bestückte und Vollhartmetall-Hobelmesser            FR Couteaux à mise rapportée carbure et couteaux à raboter au carbure massif            IT Coltelli da pialla con metallo duro riportato e coltelli da pialla in HM integrale            ES Cuchillas con metal duro y cuchillas metal duro integral</p>	132 - 133







- EN Planer knives - Grades and their applications  
 DE Hobelmesser - Sorten und ihre Anwendungen  
 FR Couteaux à raboter - Les nuances et leurs applications  
 IT Coltelli da piassa - I tipi e le loro applicazioni  
 ES Cuchillas para cepillar - Calidades y sus aplicaciones

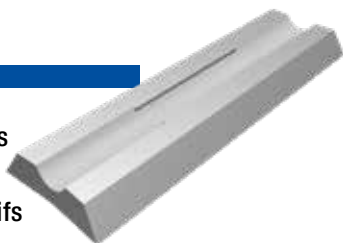
EN DE FR IT ES	TIGRA grade TIGRA - Sorte Nuance TIGRA Tipo TIGRA Calidad TIGRA	Compositon Zusammensetzung Composition Composizione Composición	Hardness Härte Dureté Durezza Durezza	Toughness Zähigkeit Ténacité Tenacità Tenacidad	Bending strength Biegebruchfestigkeit Résistance à la flexion Resistenza flessionale Resistencia a la flexión
	HSS	6% W / M2	↓	↗	↑
	HSS 18%	18% W / T1	→	↗	↗
	HSS M42	M42	→	↗	↗
	High Performance Steel	CrV	↓	↑	↗
	T.C.T.	carbide tipped	↗	→	↓
	Solid carbide	T10MG	↑	→	→
		T12SMG	↑	→	↗
	Matrix	special coating	↗	→	↗

EN For technical data, please refer to the pages 8-10.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 8-10.  
 FR Pour les données techniques, veuillez voir aux pages 8-10.


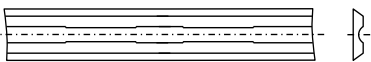
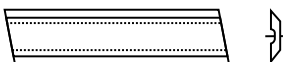
EN	HDF	MDF	Chipboard	Hardwood	Softwood	Main usage
DE	HDF	MDF	Spanplatte	Hartholz	Weichholz	Hauptverwendung
FR	HDF	MDF	Panneaux de particule	Bois dur	Bois tendre	Usage principal
IT	HDF	MDF	Truciolare	Legno duro	Legno tenero	Usò principale
ES	HDF	MDF	Panel de aglomerado	Madera dura	Madera blanda	Usò principal
	☐	☐	☐	✓	✓	EN Standard HSS grade, wood DE Standard-HSS-Sorte, Holz FR Nuance HSS standard, bois IT HSS standard, legno ES Calidad HSS estándar, madera
	☐	☐	○	✓	✓	EN Best HSS grade, wood DE Beste HSS-Sorte, Holz FR Meilleure nuance HSS, bois IT Migliore HSS, legno ES Mejor calidad HSS, madera
	☐	☐	☐	✓	✓	EN Special HSS grade, wood DE Spezial-HSS-Sorte, Holz FR Nuance HSS spéciale, bois IT HSS speciale, legno ES Calidad HSS especial, madera
	☐	☐	☐	○	✓	EN Softwood, low price demands DE Weichholz, preisgünstig FR Bois tendre, pris bas IT Legni teneri, costo basso ES Madera blanda, bajo costo
	○	✓	✓	✓	○	EN High lifetime demands DE Hohe Standzeitanforderungen FR Applications de durabilité maximisé IT Elevata esigenza di durata ES Para aplicaciones de maxima durabilidad
	✓	✓	✓	✓	✓	EN Highest lifetime demands DE Höchste Standzeitanforderungen FR Très longue durée de vie et nombreux services IT Massima esigenza di durata ES Vida útil muy prolongada
	✓	✓	✓	✓	✓	EN Highest lifetime and surface quality DE Höchste Lebensdauer und Oberflächenqualität FR La plus haute qualité de vie et de surface IT Maggiore durata e qualità della superficie ES Máxima vida útil y calidad de la superficie
	☐	☐	☐	✓	✓	EN Very long lifetime with multiple resharpening DE Sehr lange Lebensdauer durch mehrfaches Nachschärfen FR Très longue durée de vie et nombreux services IT Durata molto lunga con affilatura multipla ES Muy larga vida útil con múltiple reafilado

 best performance  
 very good performance  
 acceptable  
 not suitable

IT Per i dati tecnici, fare riferimento alle pagine 8-10.  
 ES Para los datos técnicos, consulte las páginas 8-10.



- EN Reversible knives for portable planers  
 DE Wendeschneidplatten für Handhobel  
 FR Plaquettes pour rabots électro portatifs  
 IT Coltelli per piallatrici portatili  
 ES Cuchillas para acepilladoras electricas

	L mm	W mm	T mm	T08MF	
	56.0	5.5	1.1	013041	Adler
	60.0	5.5	1.1	013053	Wegoma
	75.5	5.5	1.1	013001	AEG, Bosch, Festo, Haffner, Kress, Mafell, Metabo, Scheer, Skil, Holz-Her
	78.0	5.5	1.1	013067	Virutex
	102.0	5.5	1.1	013061	AEG
	80.5	5.5	1.1	013010	ELU
	80.5	5.9	1.2	013043	ELU
	82.0	5.5	1.1	013020	AEG, B&D, Bosch, ALU, Fein, Felisatti, Haffner, Hitachi, Holz-Her, Mafell, Makita, Metabo, Peugot, Ryobi, Skil
	82.0	5.1	1.2	013034	Face groove, Brustnut, Rainure sur grande face, Scanalatura frontale, Ranura frontal



For System Tersa\*

- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	HSS Standard (M2)	HSS 18% (T1)	HSS M42	High Performance Steel
60.0	10.0	2.3	100847	100395	114482	114539	108320
75.0	10.0	2.3	104212	107545	114483	114540	115104
80.0	10.0	2.3	100848	100396	114484	114541	115105
90.0	10.0	2.3	104398	107546	114485	114542	115106
95.0	10.0	2.3	104211	107547	114486	114543	115107
100.0	10.0	2.3	055509	100397	114487	114544	108321
110.0	10.0	2.3	100849	100398	114488	114545	108322
115.0	10.0	2.3	105071	104630	114489	114546	108323
120.0	10.0	2.3	100851	100399	114490	114547	108324
125.0	10.0	2.3	104022	107548	114491	114548	115108
130.0	10.0	2.3	055510	100400	114492	114549	108325
135.0	10.0	2.3	103823	103821	114493	114550	108326
140.0	10.0	2.3	104766	104613	114494	114551	108327
145.0	10.0	2.3	104210	107549	114495	114552	115109
150.0	10.0	2.3	100852	100401	114496	114553	108328
160.0	10.0	2.3	103943	102716	114497	114554	108329
170.0	10.0	2.3	100853	100402	114498	114555	108330
180.0	10.0	2.3	100854	100403	114499	114556	108331
185.0	10.0	2.3	105070	102774	114500	114557	108332
190.0	10.0	2.3	104399	104808	114501	114558	108333
200.0	10.0	2.3	105698	104243	114502	114559	115121
210.0	10.0	2.3	100855	100404	114503	114560	108334
220.0	10.0	2.3	104589	104566	114504	114561	108335
230.0	10.0	2.3	055511	100405	114505	114562	108337
235.0	10.0	2.3	103824	101718	114506	114563	108338
240.0	10.0	2.3	104043	101720	114507	114564	108339
250.0	10.0	2.3	100856	100406	114508	114565	115110
260.0	10.0	2.3	100857	100407	114509	114566	108340
265.0	10.0	2.3	104573	104326	114510	114567	115111
270.0	10.0	2.3	101673	102982	114511	114568	115112

\* EN For use in Tersa-cutterheads only  
 \* DE Nur zur Verwendung in Tersa-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Tersa  
 \* IT Da usare solo su teste portacoltelli della Tersa  
 \* ES Sólo para empleo con portacuchillas de Tersa



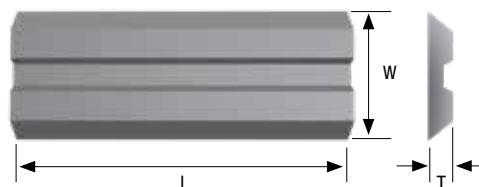
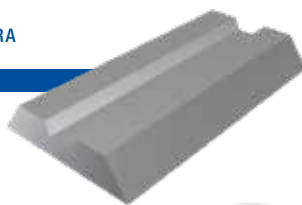


For System Tersa\*

- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	HSS Standard (M2)	HSS 18% (T1)	HSS M42	High Performance Steel
280.0	10.0	2.3	100858	100408	114512	114569	115113
300.0	10.0	2.3	100859	100409	114513	114570	108341
310.0	10.0	2.3	055512	100410	114514	114571	108342
320.0	10.0	2.3	107550	104687	114515	114572	108343
330.0	10.0	2.3	100861	100411	114516	114573	108344
350.0	10.0	2.3	100862	100412	114517	114574	108345
360.0	10.0	2.3	100863	100413	114518	114575	115114
400.0	10.0	2.3	100864	100414	114519	114576	108346
410.0	10.0	2.3	055513	100415	114520	114577	108347
415.0	10.0	2.3	107551	105267	114521	114578	115115
420.0	10.0	2.3	100865	100416	114522	114579	108348
430.0	10.0	2.3	055514	100417	114523	114580	108349
450.0	10.0	2.3	100866	100418	114524	114581	108350
500.0	10.0	2.3	100867	100419	114525	114582	108351
510.0	10.0	2.3	055515	100420	114526	114583	108352
520.0	10.0	2.3	055516	100421	114527	114584	108353
530.0	10.0	2.3	100868	100422	114528	114585	108354
540.0	10.0	2.3	100869	100423	114529	114586	115116
600.0	10.0	2.3	104720	103994	114530	114587	108355
610.0	10.0	2.3	055517	100424	114531	114588	108356
630.0	10.0	2.3	055518	100425	114532	114589	108357
635.0	10.0	2.3	102179	103912	114533	114590	108358
640.0	10.0	2.3	100870	100426	114534	114591	108359
650.0	10.0	2.3	055519	100427	114535	114592	108361
710.0	10.0	2.3		114119	114536	114593	115117
810.0	10.0	2.3		113435	114537	114594	115118
1050.0	10.0	2.3		114599	114538	114595	115119
Coil 60 meters				115127	116526	115128	115129
Coil 120 meters				110719	115191	114791	115120
Packing paper coil (60 meters for paired packing)				112874	112874	112874	112874

\* EN For use in Tersa-cutterheads only  
 \* DE Nur zur Verwendung in Tersa-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Tersa  
 \* IT Da usare solo su teste portacoltelli della Tersa  
 \* ES Sólo para empleo con portacuchillas de Tersa



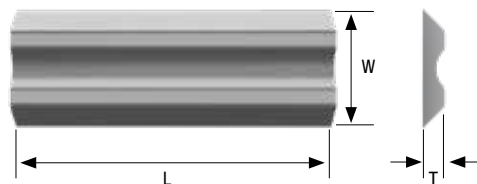
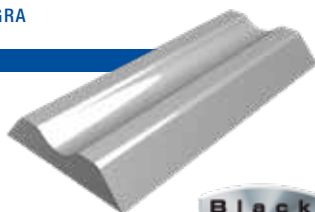
For System Centrolock\*

- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	T12SMG Microfinish	HSS 18% (T1)
10.0	16.0	3.0	102953		114697
20.0	16.0	3.0	100836		114698
30.0	16.0	3.0	102777		114699
40.0	16.0	3.0	102954		114700
50.0	16.0	3.0	102778		114701
60.0	16.0	3.0	100837	141935	114702
65.0	16.0	3.0	107536		114703
80.0	16.0	3.0	100838		114704
100.0	16.0	3.0	055502	141937	114705
115.0	16.0	3.0	106848		114706
130.0	16.0	3.0	055503	142745	114707
140.0	16.0	3.0	107537		114708
150.0	16.0	3.0	100839	142840	114709
160.0	16.0	3.0	105003		114710
170.0	16.0	3.0	055504	142746	114711
180.0	16.0	3.0	100840		114712
190.0	16.0	3.0	100841		114713
210.0	16.0	3.0	100842		114714
220.0	16.0	3.0	107538		114715
230.0	16.0	3.0	054753	141939	114716
235.0	16.0	3.0	100844		114717
240.0	16.0	3.0	055505	140154	114718
260.0	16.0	3.0	100845		114719
270.0	16.0	3.0	055506	141941	114720
285.0	16.0	3.0	125900		122896
300.0	16.0	3.0	102493		114721
310.0	16.0	3.0	100846	142850	114722
460.0	16.0	3.0	055507		114723
650.0	16.0	3.0	055508		114724
710.0	16.0	3.0			114725
810.0	16.0	3.0			114726
1050.0	16.0	3.0			114727

\* EN For use in Centrolock-cutterheads only  
 \* DE Nur zur Verwendung in Centrolock-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Centrolock  
 \* IT Da usare solo su teste portacoltelli della Centrolock  
 \* ES Sólo para empleo con portacuchillas de Centrolock





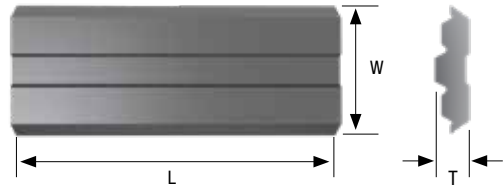
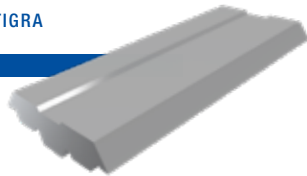
For System Terminus\*

- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	HSS 18% (T1)
50.0	14.0	2.55	100796	114649
60.0	14.0	2.55	100803	114650
80.0	14.0	2.55	100804	114651
100.0	14.0	2.55	100805	114652
110.0	14.0	2.55	100806	114653
120.0	14.0	2.55	100807	114654
130.0	14.0	2.55	055496	114655
136.0	14.0	2.55	107532	114656
140.0	14.0	2.55	100808	114657
150.0	14.0	2.55	100809	114658
160.0	14.0	2.55	100811	114659
170.0	14.0	2.55	100812	114660
180.0	14.0	2.55	100813	114661
190.0	14.0	2.55	100814	114662
200.0	14.0	2.55	100815	114663
210.0	14.0	2.55	100816	114664
220.0	14.0	2.55	100817	114665
230.0	14.0	2.55	054752	114666
240.0	14.0	2.55	100818	114667
250.0	14.0	2.55	100819	114668
255.0	14.0	2.55	107533	114669
260.0	14.0	2.55	100820	114670
270.0	14.0	2.55	100821	114671
275.0	14.0	2.55	107534	114672
280.0	14.0	2.55	100822	114673

L mm	W mm	T mm	T10MG	HSS 18% (T1)
300.0	14.0	2.55	100823	114674
310.0	14.0	2.55	055497	114675
330.0	14.0	2.55	107535	114676
350.0	14.0	2.55	100824	114677
360.0	14.0	2.55	100825	114678
400.0	14.0	2.55	100826	114679
410.0	14.0	2.55	055498	114680
420.0	14.0	2.55	100828	114681
430.0	14.0	2.55	100829	114682
450.0	14.0	2.55	100830	114683
480.0	14.0	2.55	100940	114684
500.0	14.0	2.55	104977	114685
510.0	14.0	2.55	055499	114686
520.0	14.0	2.55	100831	114687
530.0	14.0	2.55	100832	114688
610.0	14.0	2.55	055500	114689
620.0	14.0	2.55	100833	114690
630.0	14.0	2.55	100834	114691
640.0	14.0	2.55	100835	114692
650.0	14.0	2.55	055501	114693
710.0	14.0	2.55		114694
810.0	14.0	2.55		114695
1050.0	14.0	2.55		114696

\* EN For use in Terminus-cutterheads only  
 \* DE Nur zur Verwendung in Terminus-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Terminus  
 \* IT Da usare solo su teste portacotelli della Terminus  
 \* ES Sólo para empleo con portacuchillas de Terminus



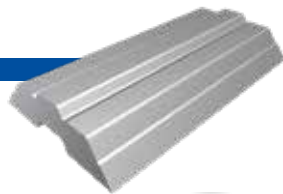
For System Centrofix/  
Centrostar/ Quickfix\*

- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	HSS Standard (M2)	HSS 18% (T1)
50.0	12.0	2.7	100876	100896	114762
80.0	12.0	2.7	100879	100897	114763
100.0	12.0	2.7	100880	100898	114764
120.0	12.0	2.7	100881	100899	114765
130.0	12.0	2.7	055520	055488	114766
136.0	12.0	2.7	100883	100900	114767
150.0	12.0	2.7	100884	100901	114768
170.0	12.0	2.7	100885	100902	114769
180.0	12.0	2.7	055521	055489	114770
190.0	12.0	2.7	100886	100904	114771
210.0	12.0	2.7	100887	100905	114772
230.0	12.0	2.7	055522	055490	114773
240.0	12.0	2.7	100890	100906	114774
260.0	12.0	2.7	111091	110036	116026
310.0	12.0	2.7	101675	103165	114775
400.0	12.0	2.7	100891	100907	114776
410.0	12.0	2.7	055523	055491	114777
420.0	12.0	2.7	100892	100908	114778
430.0	12.0	2.7	100893	100909	114779
500.0	12.0	2.7	100894	100910	114780
510.0	12.0	2.7	055524	055492	114781
520.0	12.0	2.7	055525	055493	114782
530.0	12.0	2.7	055526	055494	114783
540.0	12.0	2.7	100895	100911	114784
630.0	12.0	2.7	107553	103814	114785
640.0	12.0	2.7	107554	107474	114786
650.0	12.0	2.7	055527	055495	114787
710.0	12.0	2.7		101046	114788
810.0	12.0	2.7		108226	114789
1050.0	12.0	2.7		114760	114790
<b>Coil 60 meters</b>				<b>121137</b>	
<b>Coil 120 meters</b>				<b>112205</b>	
<b>Packing paper coil (60 meters for paired packing)</b>				<b>112877</b>	

\* EN For use in Centrofix/Centrostar/Quickfix-cutterheads only  
 \* DE Nur zur Verwendung in Centrofix/Centrostar/Quickfix-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Centrofix/Centrostar/Quickfix  
 \* IT Da usare solo su teste portacoltelli della Centrofix/Centrostar/Quickfix  
 \* ES Sólo para empleo con portacuchillas de Centrofix/Centrostar/Quickfix



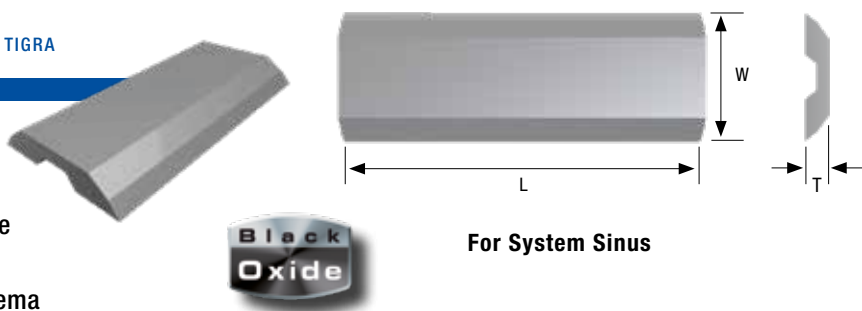


For System Variplan\*

- EN System Planer knives  
 DE Systemhobelmesser  
 FR Couteaux à raboter pour système  
 IT Coltelli da pialla per sistema  
 ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG	HSS 18% (T1)
50	16.0	3.7	116764	116737
60	16.0	3.7	116765	116738
80	16.0	3.7	116766	116739
100	16.0	3.7	116767	116740
120	16.0	3.7	116768	116741
130	16.0	3.7	109662	116319
136	16.0	3.7	116769	116742
150	16.0	3.7	116770	116743
170	16.0	3.7	108654	116744
180	16.0	3.7	116771	116745
190	16.0	3.7	116772	116746
210	16.0	3.7	107585	116747
230	16.0	3.7	116773	116320
240	16.0	3.7	116774	116321
400	16.0	3.7	116775	116748
410	16.0	3.7	107586	116322
420	16.0	3.7	116776	116749
430	16.0	3.7	116777	116750
500	16.0	3.7	116778	116751
510	16.0	3.7	116779	116752
520	16.0	3.7	116780	116753
530	16.0	3.7	116781	116754
540	16.0	3.7	116782	116755
600	16.0	3.7	116783	116756
610	16.0	3.7	116784	116757
630	16.0	3.7	116785	116758
640	16.0	3.7	116786	116759
1050	16.0	3.7		115845

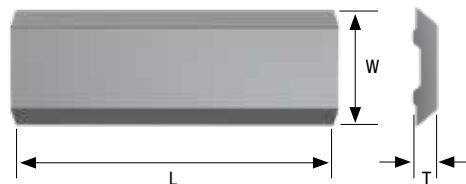
\* EN For use in Variplan-cutterheads only  
 \* DE Nur zur Verwendung in Variplan-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Variplan  
 \* IT Da usare solo su teste portacoltelli della Variplan  
 \* ES Sólo para empleo con portacuchillas de Variplan



- EN System Planer knives
- DE Systemhobelmesser
- FR Couteaux à raboter pour système
- IT Coltelli da pialla per sistema
- ES Cuchillas para cepillar para sistema

L mm	W mm	T mm		
			T10MG	HSS 18% (T1)
80	16.0	2.5	116711	130320
100	16.0	2.5	116712	130321
120	16.0	2.5	116713	130322
130	16.0	2.5	116714	130323
140	16.0	2.5	116715	130324
150	16.0	2.5	116716	130325
160	16.0	2.5	116717	130326
180	16.0	2.5	116718	130327
190	16.0	2.5	116719	130328
200	16.0	2.5	116720	130329
210	16.0	2.5	116721	130330
220	16.0	2.5	116722	128352
230	16.0	2.5	116723	128353
235	16.0	2.5		130344
240	16.0	2.5	116724	128354
250	16.0	2.5	116725	130331
260	16.0	2.5	116726	130332
300	16.0	2.5	116727	130333
310	16.0	2.5	116728	130334
400	16.0	2.5	116729	130335
410	16.0	2.5	116730	130336
430	16.0	2.5	116731	130337
500	16.0	2.5	116732	130338
510	16.0	2.5	116733	130339
610	16.0	2.5	116734	130292
630	16.0	2.5	116735	130340
640	16.0	2.5	116736	130341
710	16.0	2.5		130342
1050	16.0	2.5		130343
1350	16.0	2.5		115486

\* EN For use in Sinus-cutterheads only  
 \* DE Nur zur Verwendung in Sinus-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Sinus  
 \* IT Da usare solo su teste portacoltelli della Sinus  
 \* ES Sólo para empleo con portacuchillas de Sinus



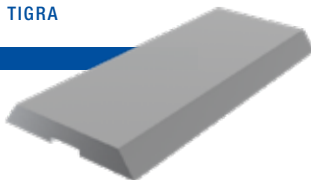
For System Enshin\*

- EN System Planer knives  
 DE Systemhobelmesser  
 FR Couteaux à raboter pour système  
 IT Coltelli da pialla per sistema  
 ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG
80	12.7	2.7	116794
100	12.7	2.7	116796
130	12.7	2.7	116797
150	12.7	2.7	116798
170	12.7	2.7	116799
180	12.7	2.7	116800
190	12.7	2.7	116801
210	12.7	2.7	116802
230	12.7	2.7	116803
240	12.7	2.7	116804
640	12.7	2.7	116805

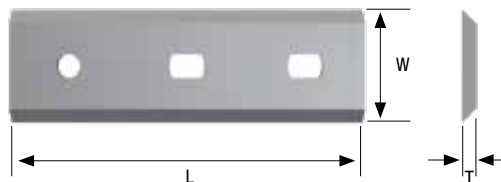
L mm	W mm	T mm	HSS Standard (M2)
80	12.0	2.7	116787
100	12.0	2.7	116788
130	12.0	2.7	116316
150	12.0	2.7	116789
170	12.0	2.7	116790
180	12.0	2.7	116317
190	12.0	2.7	116791
210	12.0	2.7	116792
230	12.0	2.7	116318
240	12.0	2.7	116793
1050	12.0	2.7	115846

\* EN For use in Enshin-cutterheads only  
 \* DE Nur zur Verwendung in Enshin-Messerköpfen  
 \* FR Utilisation limitée aux porte outils de Enshin  
 \* IT Da usare solo su teste portacoltelli della Enshin  
 \* ES Sólo para empleo con portacuchillas de Enshin


**For System Bulldozer**

- EN System Planer knives  
 DE Systemhobelmesser  
 FR Couteaux à raboter pour système  
 IT Coltelli da pialla per sistema  
 ES Cuchillas para cepillar para sistema

L mm	W mm	T mm	T10MG
60.0	13.6	1.8	047422
70.0	13.6	1.8	013728
80.0	13.6	1.8	046288
100.0	13.6	1.8	013713
110.0	13.6	1.8	047423
120.0	13.6	1.8	013715
130.0	13.6	1.8	013716
140.0	13.6	1.8	013723
150.0	13.6	1.8	013718
160.0	13.6	1.8	013726
180.0	13.6	1.8	013719
190.0	13.6	1.8	013725
200.0	13.6	1.8	013720
220.0	13.6	1.8	049247
230.0	13.6	1.8	013721
240.0	13.6	1.8	040337
245.0	13.6	1.8	038423
250.0	13.6	1.8	013722
260.0	13.6	1.8	035440



For System Barke/Brück/ESTA

- EN System Planer knives  
 DE Systemhobelmesser  
 FR Couteaux à raboter pour système  
 IT Coltelli da pialla per sistema  
 ES Cuchillas para cepillar para sistema

L	W	T	High Performance Steel	M42	Suitable for ...	L	W	T	Backing plate
mm	mm	mm				mm	mm	mm	
110.0	19.0	1.0	101798	142053	Mafell	110.0	25.0	2.0	142369
115.0	18.6	1.0	142069	142104		120.0	25.0	2.0	142370
120.0	19.0	1.0	051731	142106		130.0	25.0	2.0	142371
130.0	19.0	1.0	049685	142107		150.0	25.0	2.0	142372
150.0	19.0	1.0	131397	142108					
161.0	19.0	1.0	142074	142109	Mafell				
170.0	18.6	1.0	142362	142363	Mafell				
170.0	19.0	1.0	110648	142110		170.0	25.0	2.0	142373
180.0	19.0	1.0	109998	142111		180.0	25.0	2.0	142374
186.0	19.0	1.0	142070	142112		186.0	25.0	2.0	142375
190.0	19.0	1.0	051730	142113	HolzHer / ProTool / Festool	190.0	25.0	2.0	142376
200.0	19.0	1.0	130305	142115		200.0	25.0	2.0	142377
205.0	19.0	1.0	142075	142116		230.0	25.0	2.0	142378
230.0	19.0	1.0	050210	142127					
245.0	19.0	1.0	142072	142128	HolzHer / ProTool / Festool				
250.0	19.0	1.0	142073	142129		250.0	25.0	2.0	142379
260.0	17.2	1.0	142365	-	Scheppach	260.0	16.6	2.0	142380
260.0	19.0	1.0	127955	142133	<u>Not</u> for Felder	260.0	25.0	2.0	142381
264.0	24.0	1.0	142092	-	Emco	264.0	20.0	2.0	142382
280.0	18.6	1.0	142099	142153	Mafell				
300.0	19.0	1.0	142100	142154	HolzHer / ProTool / Makita				
310.0	19.0	1.0	130306	142155	<u>Not</u> for Felder/Hammer	310.0	25.0	2.0	142383
320.0	17.2	1.0	142366	-	Scheppach	320.0	16.6	2.0	142384
320.0	18.6	1.0	142367	142368	Mafell				
320.0	19.0	1.0	101799	142156		320.0	25.0	2.0	142385
350.0	19.0	1.0	134298	142157	HolzHer / ProTool				
400.0	19.0	1.0	133960	142158		400.0	25.0	2.0	142386
410.0	19.0	1.0	113338	142159	<u>Not</u> for Felder/Hammer	410.0	25.0	2.0	142387
500.0	19.0	1.0	110742	142160		500.0	25.0	2.0	142388
510.0	19.0	1.0	109381	142161	<u>Not</u> for Felder	510.0	25.0	2.0	142389
520.0	19.0	1.0	142101	142162		520.0	25.0	2.0	142390
530.0	19.0	1.0	133883	142163		530.0	25.0	2.0	142391
610.0	19.0	1.0	142102	142164		610.0	25.0	2.0	142392
630.0	19.0	1.0	108937	142165		630.0	25.0	2.0	142393
640.0	19.0	1.0	132415	142166		640.0	25.0	2.0	142394

EN The backing plates are also available in W = 18 mm.

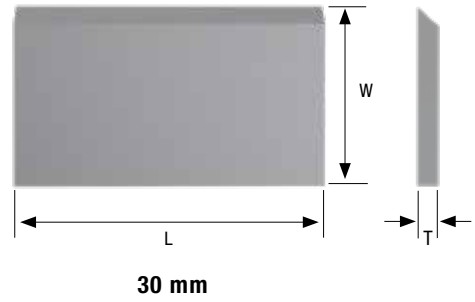
DE Stützplatten sind auch in W = 18 mm lieferbar.


FR Les porte-plaquettes sont également disponibles en W = 18 mm.

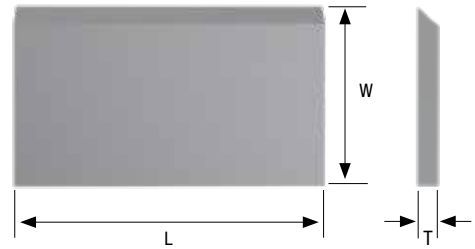
IT Le piastre di supporto sono anche disponibili in W = 18 mm.

ES Las placas de soporte también están disponibles en W = 18 mm.

- EN HSS/Matrix planer knives  
 DE HSS/Matrix Hobelmesser  
 FR Fers de raboteuse HSS/Matrix  
 IT Coltelli da pialla HSS/Matrix  
 ES Cuchillas en HSS/Matrix




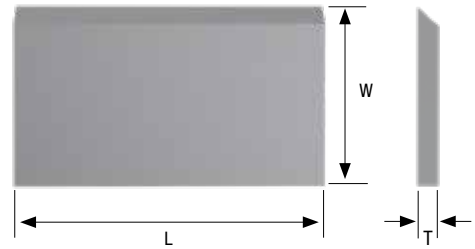
L mm	W mm	T mm	HSS Standard (M2)	HSS 18% (T1)	 Matrix coating technology
60	30.0	3.0	030152	111908	120140
80	30.0	3.0	030153	111913	120141
100	30.0	3.0	030154	111914	120142
110	30.0	3.0	030156	111915	120143
120	30.0	3.0	030157	111916	120144
130	30.0	3.0	030159	111917	120145
150	30.0	3.0	030162	111918	120146
160	30.0	3.0	030163	111919	120147
170	30.0	3.0	030164	111920	120148
180	30.0	3.0	030165	111921	120149
210	30.0	3.0	030168	111922	120150
230	30.0	3.0	030171	111923	120151
240	30.0	3.0	030172	111924	120153
260	30.0	3.0	030174	111925	120154
300	30.0	3.0	030175	111926	120155
310	30.0	3.0	030176	111927	120156
350	30.0	3.0	030178	111928	120157
400	30.0	3.0	030182	111929	120158
410	30.0	3.0	030183	111930	120159
500	30.0	3.0	030186	111931	120160
510	30.0	3.0	030187	111932	120161
520	30.0	3.0	101376	111933	120162
530	30.0	3.0	030188	111934	120163
600	30.0	3.0	030190	111935	120164
610	30.0	3.0	030191	111936	120165
630	30.0	3.0	030192	111937	120166
640	30.0	3.0	030194	111938	120167
710	30.0	3.0	030198	111939	120168
810	30.0	3.0	030201	111940	120169
820	30.0	3.0	101051	111941	120170
1050	30.0	3.0	030249	111942	120171




35 mm

- EN HSS/Matrix planer knives  
 DE HSS/Matrix Hobelmesser  
 FR Fers de raboteuse HSS/Matrix  
 IT Coltelli da pialla HSS/Matrix  
 ES Cuchillas en HSS/Matrix

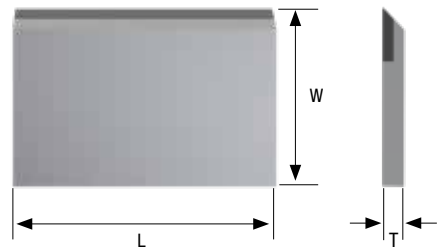
L mm	W mm	T mm	HSS Standard (M2)	HSS 18% (T1)	 Matrix coating technology
60	35.0	3.0	030205	111944	120173
80	35.0	3.0	030206	111945	120174
100	35.0	3.0	030207	111946	120175
110	35.0	3.0	030208	111947	120176
120	35.0	3.0	030209	111948	120178
130	35.0	3.0	030210	111949	120179
150	35.0	3.0	030211	111950	120180
160	35.0	3.0	030212	111951	120181
170	35.0	3.0	030213	111952	120182
180	35.0	3.0	030214	111953	120183
210	35.0	3.0	030217	111954	120185
230	35.0	3.0	030218	111955	120186
240	35.0	3.0	107570	111956	120188
260	35.0	3.0	030220	111957	120189
300	35.0	3.0	048006	111958	120190
310	35.0	3.0	030222	111959	120191
350	35.0	3.0	107571	111960	120192
400	35.0	3.0	030225	111961	120193
410	35.0	3.0	030226	111962	120194
500	35.0	3.0	030230	111963	120195
510	35.0	3.0	030231	111964	120196
520	35.0	3.0	030232	111965	120197
530	35.0	3.0	030233	111966	120198
600	35.0	3.0	030234	111967	120199
610	35.0	3.0	030235	111968	120200
630	35.0	3.0	030236	111969	120201
640	35.0	3.0	030237	111970	120202
710	35.0	3.0	030240	111971	120203
810	35.0	3.0	030243	111972	120204
820	35.0	3.0	101052	111973	120207
1050	35.0	3.0	030252	111974	120208


**Special dimensions**

- EN HSS/Matrix planer knives  
 DE HSS/Matrix Hobelmesser  
 FR Fers de raboteuse HSS/Matrix  
 IT Coltelli da pialla HSS/Matrix  
 ES Cuchillas en HSS/Matrix

L mm	W mm	T mm	HSS Standard (M2)	HSS 18% (T1)	 Matrix coating technology
1050	20.0	2.5	106992	122065	122071
1050	25.0	2.5	106994	116185	122072
1050	20.0	3.0	101943	122007	-
1050	25.0	3.0	101030	111975	120209
1050	32.0	3.0	101938	111976	120210

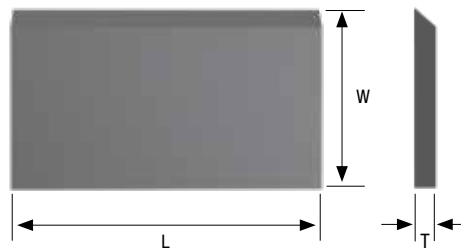




metric

- EN T.C.T. planer knives
- DE HM-bestückte Hobelmesser
- FR Couteaux à mise rapportée carbure
- IT Coltelli da pialla con metallo duro riportato
- ES Cuchillas con metal duro

L mm	T mm	W = 25 mm	W = 30 mm	W = 35 mm
60.0	3.0	114850	029969	030021
80.0	3.0	114851	029970	030022
100.0	3.0	113770	029972	030024
110.0	3.0	114852	029973	030025
120.0	3.0	111723	029974	030026
130.0	3.0	103946	029975	030027
150.0	3.0	105829	029979	030029
160.0	3.0	029943	029980	030030
170.0	3.0	114853	029981	030031
180.0	3.0	105830	029982	030032
200.0	3.0	110737	029986	030034
210.0	3.0	108651	029987	030035
230.0	3.0	112774	029989	030036
240.0	3.0	114854	029991	030038
250.0	3.0	029952	029993	030039
260.0	3.0	104917	029994	030040
270.0	3.0	107022	101697	107555
300.0	3.0	112585	029996	030041
310.0	3.0	029955	029997	030042
330.0	3.0	114855	002238	055837
350.0	3.0	114856	029998	030044
400.0	3.0	029957	029999	107556
410.0	3.0	104919	030001	030047
500.0	3.0	029960	030006	030049
510.0	3.0	104920	030007	030050
520.0	3.0	109690	030009	103998
530.0	3.0	114857	051130	030051
600.0	3.0	112963	030011	030052
610.0	3.0	114858	030012	030054
630.0	3.0	114859	030013	030055
640.0	3.0	114860	030014	030057
680.0	3.0	114861	114849	106194
710.0	3.0	114862	030016	030058
810.0	3.0	029967	030018	030059
820.0	3.0	107126	100445	100446
1010.0	3.0	030128	030131	030137
1050.0	3.0	104830	030132	030138



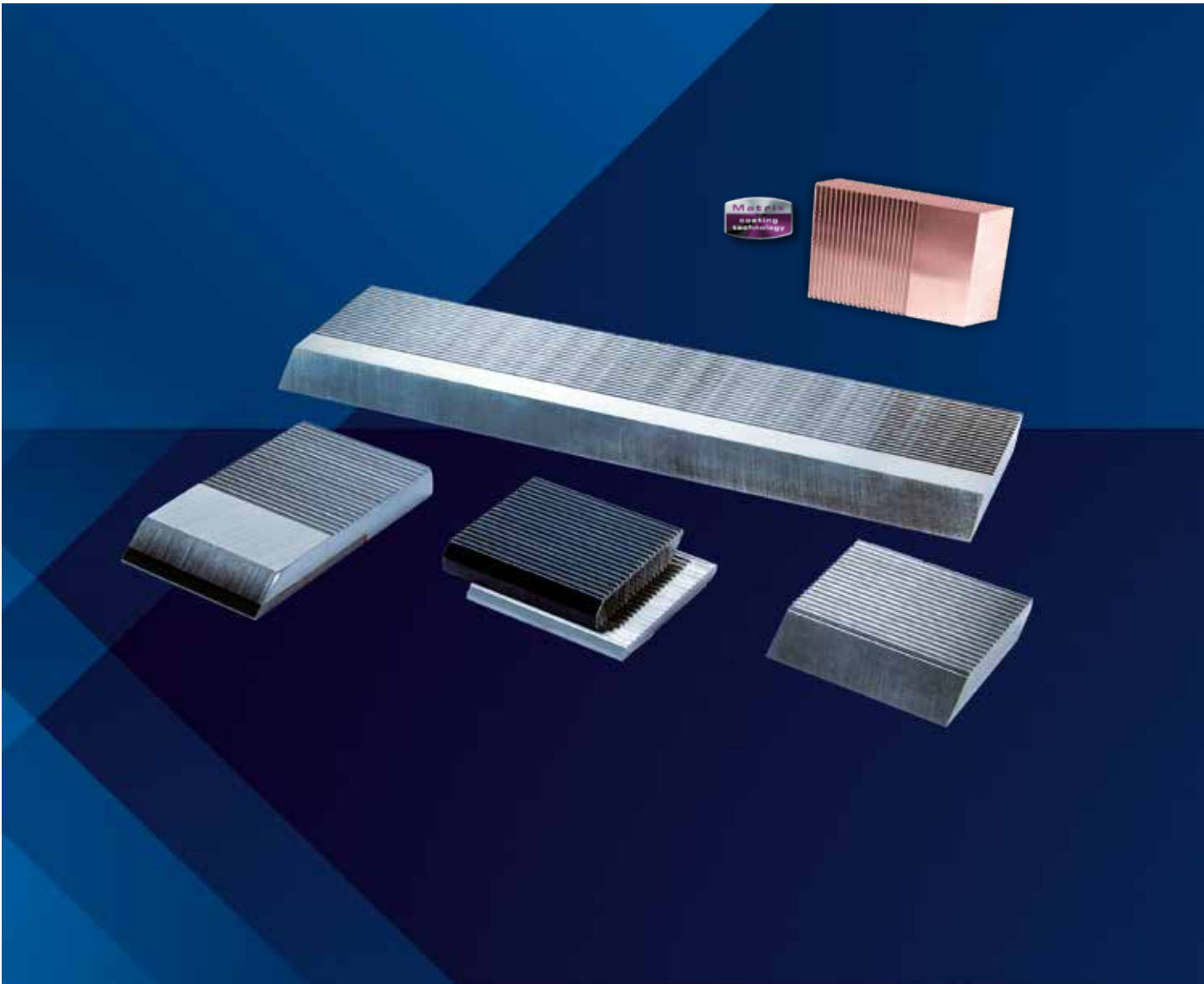
- EN Solid carbide planer knives  
 DE Vollhartmetall Hobelmesser  
 FR Couteaux à raboter au carbure massif  
 IT Coltelli da pialla in HM integrale  
 ES Cuchillas metal duro integral

L mm	W mm	T mm	T10MG
60.0	30.0	3.0	050050
80.0	30.0	3.0	050051
100.0	30.0	3.0	042029
110.0	30.0	3.0	050053
120.0	30.0	3.0	050055
130.0	30.0	3.0	044900
150.0	30.0	3.0	042030
160.0	30.0	3.0	105941
180.0	30.0	3.0	050057
190.0	30.0	3.0	112087
210.0	30.0	3.0	050059
230.0	30.0	3.0	049223
240.0	30.0	3.0	106296
250.0	30.0	3.0	109344
260.0	30.0	3.0	049222
310.0	30.0	3.0	050061
60.0	35.0	3.0	047867
80.0	35.0	3.0	047868
100.0	35.0	3.0	047869
110.0	35.0	3.0	050065
120.0	35.0	3.0	050067
130.0	35.0	3.0	047870
150.0	35.0	3.0	050070
160.0	35.0	3.0	105954
180.0	35.0	3.0	050072
190.0	35.0	3.0	114848
210.0	35.0	3.0	050074
230.0	35.0	3.0	049669
240.0	35.0	3.0	114846
250.0	35.0	3.0	114847
260.0	35.0	3.0	050077
310.0	35.0	3.0	050079



**TIGRA**

TOOLS CUT BETTER WITH TIGRA





- EN Knives for back corrugated cutterheads
- DE Messer für rückenverzahnte Messerköpfe
- FR Couteaux pour outils crantés
- IT Coltelli per teste con zigrinatura
- ES Cuchillas corrugadas

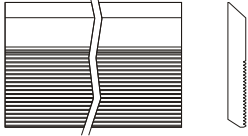
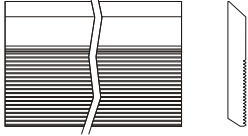
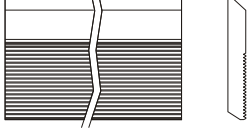
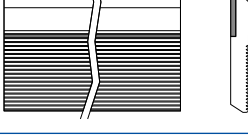
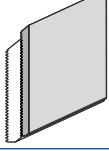
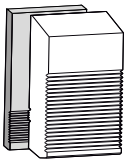


**TIGRA**
















TOOLS CUT BETTER WITH TIGRA

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- EN Knives for back corrugated cutterheads  
 DE Messer für rückenverzahnte Messerköpfe  
 FR Couteaux pour outils crantés  
 IT Coltelli per teste con zigrinatura  
 ES Cuchillas corrugadas

	<p>                             EN HSS / High Performance Steel / Matrix blanks, back corrugated                              DE HSS / High Performance Steel / Matrix Blanketts, rückenverzahnt                              FR HSS / High Performance Steel / Matrix fers crantés                              IT HSS / High Performance Steel / Matrix placchette, con zigrinatura                              ES HSS / High Performance Steel / Matrix cuchillas corrugadas                         </p>	<p>                             8 mm                              8 mm                              8 mm                              8 mm                              8 mm                         </p> <p style="text-align: right;"><b>140 - 141</b></p>
	<p>                             EN HSS blanks, back corrugated                              DE HSS Blanketts, rückenverzahnt                              FR HSS fers crantés                              IT HSS placchette, con zigrinatura                              ES HSS cuchillas corrugadas                         </p>	<p>                             4-6 mm                              4-6 mm                              4-6 mm                              4-6 mm                              4-6 mm                         </p> <p style="text-align: right;"><b>142</b></p>
	<p>                             EN HSS / High Performance Steel / Matrix blanks, back corrugated                              DE HSS / High Performance Steel / Matrix Blanketts, rückenverzahnt                              FR HSS / High Performance Steel / Matrix fers crantés                              IT HSS / High Performance Steel / Matrix placchette, con zigrinatura                              ES HSS / High Performance Steel / Matrix cuchillas corrugadas                         </p>	<p style="text-align: right;"><i>inch</i></p> <p style="text-align: right;"><b>142</b></p>
	<p>                             EN T.C.T. blanks, back corrugated                              DE HM-bestückte Blanketts, rückenverzahnt                              FR Fers crantés au carbure rapportée                              IT Placchette con metallo duro riportato, con zigrinatura                              ES Cuchillas metal duro, corrugadas                         </p>	<p style="text-align: right;"><b>143 - 144</b></p>
	<p>                             EN SuperPac - T.C. knives and backing plates for back corrugated cutterheads                              DE SuperPac - HM-Messer und Stützplatten für rückenverzahnte Messerköpfe                              FR SuperPac - Couteaux au carbure et supports pour outils crantés                              IT SuperPac - Coltelli HW e supporti per teste con zigrinatura                              ES SuperPac - Placas de metal duro y placas de apoyo para fresas dentadas                         </p>	<p style="text-align: right;"><b>145 - 146</b></p>
	<p>                             EN For MicroSystem - T.C. knives and backing plates for back corrugated cutterheads                              DE Für MicroSystem - HM-Messer und Stützplatten für rückenverzahnte Messerköpfe                              FR Pour MicroSystem - Couteaux au carbure et supports pour outils crantés                              IT Per MicroSystem - Coltelli HW e supporti per teste con zigrinatura                              ES Para MicroSystem - Placas de metal duro y placas de apoyo para fresas dentadas                         </p>	<p style="text-align: right;"><b>147</b></p>

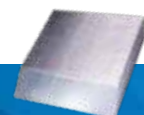
- EN Knives for back corrugated cutterheads - Grades and their applications  
 DE Messer für rückenverzahnte Messerköpfe - Sorten und ihre Anwendungen  
 FR Couteaux pour outils crantés - Les nuances et leurs applications  
 IT Coltelli per teste con zigrinatura - I tipi e le loro applicazioni  
 ES Cuchillas corrugadas - Calidades y sus aplicaciones

EN DE FR IT ES	TIGRA grade TIGRA - Sorte Nuance TIGRA Tipo TIGRA Calidad TIGRA	Compositon Zusammensetzung Composition Composizione Composición	Hardness Härte Dureté Durezza Durezza	Toughness Zähigkeit Ténacité Tenacità Tenacidad	Bending strength Biegebruchfestigkeit Résistance à la flexion Resistenza flessionale Resistencia a la flexión
	<b>HSS</b>	<b>HSS 6% (M2)</b>			
	<b>High Performance Steel</b>	<b>CrV</b>			
	<b>T.C.T.</b>	<b>carbide tipped</b>			
	<b>Tungsten carbide</b>	<b>various grades</b>			
	<b>Matrix</b>	<b>HSS with special coating</b>			

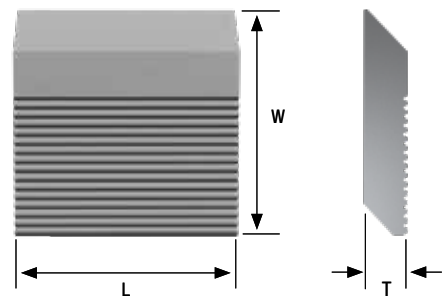
EN For technical data, please refer to the pages 8-9.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 8-9.  
 FR Pour les données techniques, veuillez voir aux pages 8-9.

EN	Plastics	HDF	MDF	Chipboard	Hardwood	Softwood	Main usage
DE	Plastik	HDF	MDF	Spanplatte	Hartholz	Weichholz	Hauptverwendung
FR	Plastiques	HDF	MDF	Panneaux de particule	Bois dur	Bois tendre	Usage principal
IT	Plastica	HDF	MDF	Truciolare	Legno duro	Legno tenero	Uso principale
ES	Plásticos	HDF	MDF	Panel de aglomerado	Madera dura	Madera blanda	Uso principal
	○	▢	▢	○	✓	✓	EN Universal, small and medium batches DE Universell, Klein- und Mittelserien FR Universel, séries petites et moyennes IT Universale, lotti piccoli e medi ES Universal, pequeños y medianos lotes
	▢	▢	▢	▢	○	✓	EN Softwood, low price demands DE Weichholz, preisgünstig FR Bois tendre, prix bas IT Legni teneri, costo basso ES Madera blanda, bajo costo
	✓	○	○	✓	✓	✓	EN Higher lifetime demands, wood, MDF DE Hohe Standzeitanforderungen, Holz, MDF FR Applications de durabilité, bois, MDF IT Elevata esigenza di durata, legno, MDF ES Demandas altas vida de la herramienta, madera, MDF
	✓	✓	✓	✓	✓	✓	EN Highest lifetime demands, multiple resharpening DE Höchste Standzeitanforderungen, mehrfaches Nachschärfen FR Applications de durabilité maximisée et nombreux affûtages IT Massima esigenza di durata, affilatura multipla ES Demandas más exigentes, múltiple reafilado
	○	▢	▢	▢	✓	✓	EN Long lifetime in wood, good resharpening DE Lange Standwege in Holz, gut zum Nachschärfen FR Longue durée de vie en bois, affûtage facile IT Durata lunga in legno, buona affilatura ES Larga vida útil de la madera, afilado fácil

- ✓ best performance
- ✓✓ very good performance
- acceptable
- ▢ not suitable

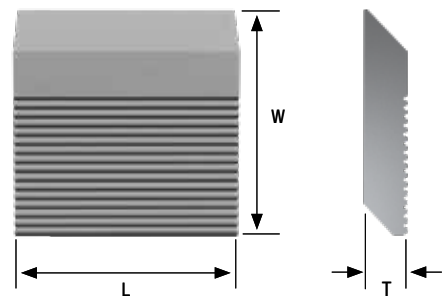





**T = 8 mm**

- EN Back corrugated blanks  
 DE Rückenverzahnte Blanketts  
 FR Fers crantés  
 IT Placchette con zigrinatura  
 ES Cuchillas corrugadas

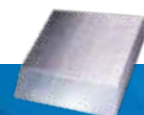
L	W	T	HSS	High Performance Steel	Matrix coating technology
mm	mm	mm			
40.0	40	8.0	030289	103456	120287
50.0	40	8.0	030290	103457	120269
60.0	40	8.0	030291	103458	120270
70.0	40	8.0	030292	103459	120271
80.0	40	8.0	030293	103460	120272
90.0	40	8.0	030294	103461	120273
100.0	40	8.0	030295	103462	120274
110.0	40	8.0	047397	103463	120275
120.0	40	8.0	030296	103464	120276
130.0	40	8.0	030297	103465	120277
150.0	40	8.0	030298	103466	120278
170.0	40	8.0	030299	103467	120279
180.0	40	8.0	030300	103468	120280
200.0	40	8.0	030301	103469	120281
210.0	40	8.0	030302	103470	120282
230.0	40	8.0	030303	103471	120283
260.0	40	8.0	030304	103472	120284
650.0	40	8.0	030306	103473	120285
40.0	50	8.0	030307	103474	120288
50.0	50	8.0	030308	103475	120289
60.0	50	8.0	030309	103476	120290
70.0	50	8.0	030310	103477	120291
80.0	50	8.0	030311	103478	120292
90.0	50	8.0	030312	103479	120293
100.0	50	8.0	030313	103480	120294
110.0	50	8.0	047398	103481	120295
120.0	50	8.0	030314	103482	120296
130.0	50	8.0	030315	103483	120297
150.0	50	8.0	030316	103484	120298
170.0	50	8.0	030317	103485	120299
180.0	50	8.0	030318	103486	120300
200.0	50	8.0	030319	103488	120301
210.0	50	8.0	030320	103489	120302
230.0	50	8.0	030321	103490	120303
260.0	50	8.0	030322	103491	120304
650.0	50	8.0	030324	103492	120305

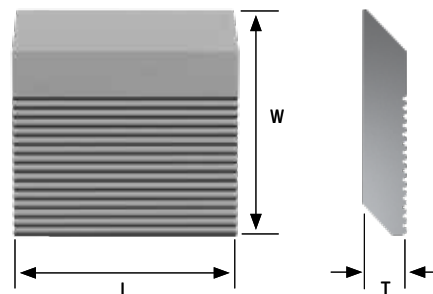


T = 8 mm

- EN Back corrugated blanks
- DE Rückenverzahnte Blanketts
- FR Fers crantés
- IT Placchette con zigrinatura
- ES Cuchillas corrugadas

L	W	T	HSS	High Performance Steel	Matrix coating technology
mm	mm	mm			
40.0	60	8.0	030326	103493	120310
50.0	60	8.0	030327	103494	120311
60.0	60	8.0	030328	103495	120312
70.0	60	8.0	030329	103496	120313
80.0	60	8.0	030330	103497	120314
90.0	60	8.0	030331	103498	120315
100.0	60	8.0	030332	103499	120316
110.0	60	8.0	047399	103500	120317
120.0	60	8.0	030333	103501	120318
130.0	60	8.0	030334	103502	120319
150.0	60	8.0	030335	103503	120320
170.0	60	8.0	030336	103504	120321
180.0	60	8.0	030337	103505	120322
200.0	60	8.0	030338	103506	120323
210.0	60	8.0	030339	103507	120324
230.0	60	8.0	030340	103508	120325
260.0	60	8.0	030341	103509	120326
650.0	60	8.0	030344	103510	120327
40.0	70	8.0	030345	103511	120328
50.0	70	8.0	030346	103512	120329
60.0	70	8.0	030347	103513	120330
70.0	70	8.0	030348	103514	120331
80.0	70	8.0	030349	103515	120332
90.0	70	8.0	030350	103516	120333
100.0	70	8.0	030351	103517	120334
110.0	70	8.0	047400	103518	120335
120.0	70	8.0	030352	103519	120336
130.0	70	8.0	030353	103521	120337
150.0	70	8.0	030354	103522	120338
170.0	70	8.0	030355	103523	120339
180.0	70	8.0	030356	103524	120340
200.0	70	8.0	030357	103525	120341
210.0	70	8.0	030358	103526	120342
230.0	70	8.0	030359	103527	120343
260.0	70	8.0	030360	103528	120344
650.0	70	8.0	030362	103529	120345





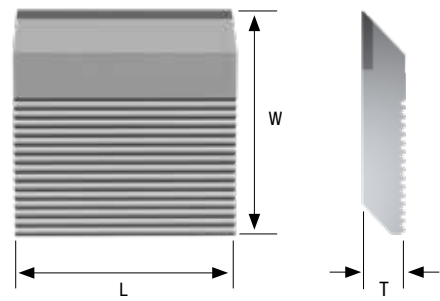
T = 4-6 mm

- EN Back corrugated blanks
- DE Rückenverzahnte Blanketts
- FR Fers crantés
- IT Placchette con zigrinatura
- ES Cuchillas corrugadas

L mm	W mm	T mm	HSS
650.0	30	4.0	104735
650.0	27	5.0	108483
650.0	38	5.0	108522
650.0	45	5.0	108562
650.0	50	5.0	108604
650.0	30	6.0	122082
650.0	40	6.0	051029
650.0	45	6.0	122083
650.0	50	6.0	043807
650.0	60	6.0	043808

inch

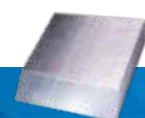
L inch	W inch	T inch	HSS (High Speed Steel)		Matrix coating technology
			with chamfer	flat bottom	flat bottom
25	1 1/4	5/16	046364	101054	120583
25	1 1/2	5/16	046365	101055	120584
25	1 3/4	5/16	046366	101056	120585
25	2	5/16	046367	101057	120586
25	2 1/4	5/16	046368	101058	120587
25	2 1/2	5/16	046369	101059	120588
25	2 3/4	5/16	046370	101060	120589
25	3	5/16	046371	101061	120590
25	1 1/4	1/4	046372	101062	120591
25	1 1/2	1/4	046373	101063	120592
25	1 3/4	1/4	046374	101064	120593
25	2	1/4	046375	101065	120594
25	2 1/4	1/4	046376	101066	120595
25	2 1/2	1/4	046377	101067	120596
25	1 3/4	3/16	046378	101068	120597
25	2	3/16	046379	101069	120598

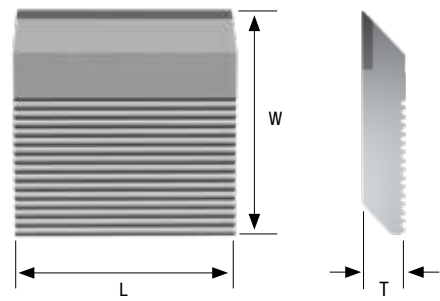
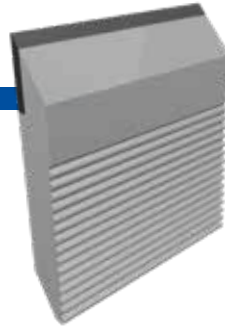


T.C.T.

- EN Back corrugated blanks  
 DE Rückenverzahnte Blanketts  
 FR Fers crantés  
 IT Placchette con zigrinatura  
 ES Cuchillas corrugadas

L mm	W mm	T mm	Inlay 14 mm	Inlay 20 mm	Inlay 25 mm
40.0	40.0	10.0	103230	103249	
60.0	40.0	10.0	103231	103250	
80.0	40.0	10.0	103232	103251	
100.0	40.0	10.0	103233	103252	
130.0	40.0	10.0	103234	103253	
150.0	40.0	10.0	103235	103254	
180.0	40.0	10.0	103236	103255	
200.0	40.0	10.0	103237	103256	
230.0	40.0	10.0	103238	103257	
260.0	40.0	10.0	103239	103258	
310.0	40.0	10.0	103240	103259	
650.0	40.0	10.0	133292	101746	
40.0	50.0	10.0	103242	030254	
60.0	50.0	10.0	030255	103261	
80.0	50.0	10.0	030256	103262	
100.0	50.0	10.0	030257	103263	
130.0	50.0	10.0	030258	103264	
150.0	50.0	10.0	103243	103265	
180.0	50.0	10.0	030260	103266	
200.0	50.0	10.0	103244	103267	
230.0	50.0	10.0	103245	103268	
260.0	50.0	10.0	030262	103269	
310.0	50.0	10.0	103246	103270	
560.0	50.0	10.0	103247	103271	
650.0	50.0	10.0	133291	030264	105661

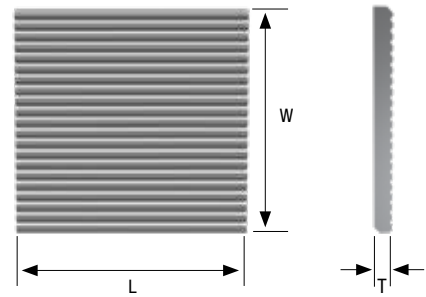
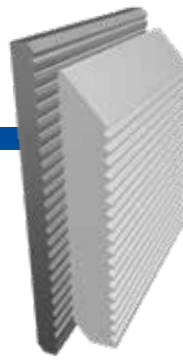




T.C.T.

- EN Back corrugated blanks  
 DE Rückenverzahnte Blanketts  
 FR Fers crantés  
 IT Placchette con zigrinatura  
 ES Cuchillas corrugadas

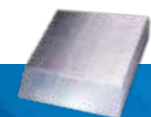
L mm	W mm	T mm	Inlay 20 mm	Inlay 25 mm	Inlay 30 mm	Inlay 35 mm
40.0	60.0	10.0	030267	103300	114867	114868
60.0	60.0	10.0	030268	103301	103797	109128
80.0	60.0	10.0	103273	030269	109133	109129
100.0	60.0	10.0	103274	030270	109134	109130
120.0	60.0	10.0	112340	109479	114865	114866
130.0	60.0	10.0	103275	030271	109135	109131
150.0	60.0	10.0	030272	103302	114869	114870
180.0	60.0	10.0	030273	103303	109136	109132
200.0	60.0	10.0	103296	103304	114871	114872
230.0	60.0	10.0	103297	103305	109137	109138
260.0	60.0	10.0	030275	103306	114873	105299
310.0	60.0	10.0	103298	103307	114874	114875
560.0	60.0	10.0	103299	103308	114876	114877
650.0	60.0	10.0	133293	102053	133925	133296
60.0	70.0	10.0			109735	
80.0	70.0	10.0			030280	
100.0	70.0	10.0			030281	
650.0	70.0	10.0			133297	133298

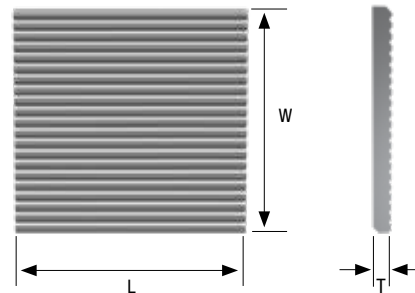
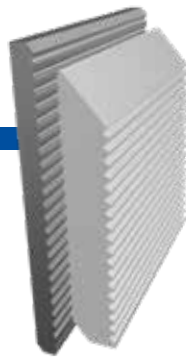


EN Carbide blank with corrugated backing plate  
 DE Hartmetall-Blankett mit rückenverzahnter Stützplatte  
 FR Plaquette carbure avec porte-plaquette denté  
 IT Coltello in HM zigrinato con piastra di supporto zigrinata  
 ES Cuchilla de metal duro con placa de soporte dentada por el lomo

EN TIGRA SuperPac  
 DE TIGRA SuperPac  
 FR TIGRA SuperPac  
 IT TIGRA SuperPac  
 ES TIGRA SuperPac

L mm	W mm	T mm	T10MG	T04F-CR	T03SMG	L mm	W mm	T mm	Backing plate Stützplatte
40	38	3.2	043933	024082	024080	40	35	7.1	024090
50	38	3.2	043934	043924	043925	50	35	7.1	043957
60	38	3.2	043935	024115	024113	60	35	7.1	024123
80	38	3.2	043936	024148	024146	80	35	7.1	024156
100	38	3.2	043937	023949	023947	100	35	7.1	023957
120	38	3.2	043938	023982	023980	120	35	7.1	023990
130	38	3.2	043939	024016	024014	130	35	7.1	024024
150	38	3.2	043940	024049	024047	150	35	7.1	024057
170	38	3.2	043962	043961	043960	170	35	7.1	045837
180	38	3.2	113497			180	35	7.1	113484
200	38	3.2	113498	131214		200	35	7.1	113485
210	38	3.2	113499	131216		210	35	7.1	113486
230	38	3.2	113500	131217		230	35	7.1	113487
310	38	3.2	113501	131219		310	35	7.1	112229
330	38	3.2	113502	131220		330	35	7.1	113481
40	50	3.2	043941	024093	024091	40	47	7.1	024101
50	50	3.2	043942	043927	043928	50	47	7.1	043958
60	50	3.2	043943	024126	024124	60	47	7.1	024134
80	50	3.2	043944	024159	024157	80	47	7.1	024167
100	50	3.2	043945	023960	023985	100	47	7.1	023968
120	50	3.2	043946	023993	023991	120	47	7.1	024001
130	50	3.2	043947	024027	024025	130	47	7.1	024035
150	50	3.2	043948	024060	024058	150	47	7.1	024068
170	50	3.2	043966	043965	043964	170	47	7.1	045838
180	50	3.2	113503			180	47	7.1	113488
200	50	3.2	113504	131221		200	47	7.1	113489
210	50	3.2	113505	131222		210	47	7.1	113490
230	50	3.2	113506	131223		230	47	7.1	113491
310	50	3.2	113507	131224		310	47	7.1	112230
330	50	3.2	113508	129927		330	47	7.1	113482



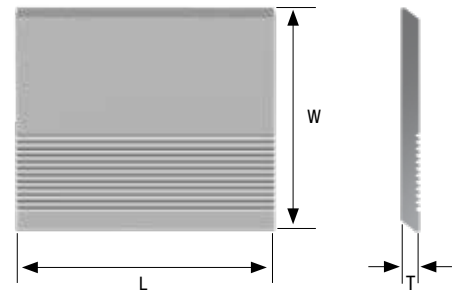
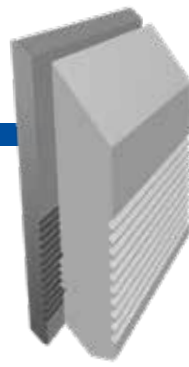


EN Carbide blank with corrugated backing plate  
 DE Hartmetall-Blankett mit rückenverzählter Stützplatte  
 FR Plaquette carbure avec porte-plaquette denté  
 IT Coltello in HM zigrinato con piastra di supporto zigrinata  
 ES Cuchilla de metal duro con placa de soporte dentada por el lomo

- EN TIGRA SuperPac
- DE TIGRA SuperPac
- FR TIGRA SuperPac
- IT TIGRA SuperPac
- ES TIGRA SuperPac

L mm	W mm	T mm	T10MG	T04F-CR	T03SMG	L mm	W mm	T mm	Backing plate Stützplatte
40	60	3.2	043949	024104	024102	40	57	7.1	024112
50	60	3.2	043950	043931	043932	50	57	7.1	043959
60	60	3.2	043951	024137	024135	60	57	7.1	024145
80	60	3.2	043952	024170	024168	80	57	7.1	024178
100	60	3.2	043953	023971	023969	100	57	7.1	023979
120	60	3.2	043954	024004	024002	120	57	7.1	024012
130	60	3.2	043955	024038	024036	130	57	7.1	024046
150	60	3.2	043956	024071	024069	150	57	7.1	024079
170	60	3.2	043970	043969	043968	170	57	7.1	045839
180	60	3.2	113509			180	57	7.1	113493
200	60	3.2	113510	131240		200	57	7.1	113494
210	60	3.2	113511	131241		210	57	7.1	113495
230	60	3.2	113512	131243		230	57	7.1	113496
310	60	3.2	113513	131244		310	57	7.1	112231
330	60	3.2	113514	129928		330	57	7.1	113483

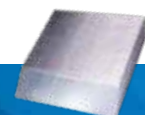
	EN Security advices DE Sicherheitshinweise FR Conseils de sécurité	IT Consigli di sicurezza ES Consejo de seguridad								
<p>s = 3,2 mm</p>	<p>EN Cutting Edge Projection Between carbide blank and backing plate s=3,2 mm (critical dimension when regrinding).</p> <p>DE Schneidenüberstand Schneidenüberstand von Hartmetallplatte zu Stützplatte s=3,2 mm (beim Nachschärfen zu beachten).</p> <p>FR Saillie des plaquettes Les plaquettes carbure dépassent le support de 3,2 mm (à prendre en compte lors du réaffûtage).</p> <p>IT Sporgenza del tagliente Sporgenza del tagliente rispetto alla piastra di supporto s= 3,2 mm (prestare attenzione in caso di riaffilatura).</p> <p>ES Exceso de corte El exceso de corte desde la placa de metal duro hacia la placa de soporte es e=3,2 mm (obsérvelo cuando se reafila).</p>									
	<p>EN Maximum Profile Depth</p> <p>DE Maximale Profiltiefe</p> <p>FR Profondeur de profil maximum</p> <p>IT Profondità massima della sagomatura</p> <p>ES Profundidad máxima de perfil</p>	<table border="1"> <thead> <tr> <th>W mm</th> <th>P max mm</th> </tr> </thead> <tbody> <tr><td>38</td><td>-</td></tr> <tr><td>50</td><td>12</td></tr> <tr><td>60</td><td>23</td></tr> </tbody> </table>	W mm	P max mm	38	-	50	12	60	23
W mm	P max mm									
38	-									
50	12									
60	23									
<p><b>DANGER</b></p>	<p>EN Warning! Specific positioning of blank and support plate; be aware of the safety regulations!</p> <p>DE Warnung! Sitzgenauer Einbau von Blankett und Stützplatte; Sicherheitsbestimmungen beachten!</p> <p>FR Avertissement! Positionnement précis de plaque et porte-plaquette; observez les règles de sécurité!</p> <p>IT Attenzione! Esatto montaggio in sede del coltello e della piastra di supporto; rispettare le norme di sicurezza!</p> <p>ES Aviso! Específicamente el posicionamiento de la placa en blanco y el apoyo, estar al tanto de las normas de seguridad!</p>									
<p><b>DANGER</b></p>	<p>EN Warning! Maximum adjustment of blank = 8 mm</p> <p>DE Warnung! Maximale Verstellung des Blanketts = 8 mm</p> <p>FR Avertissement! Ajustement maximum de plaquette = 8 mm</p> <p>IT Attenzione! Regolazione massima della placchetta = 8 mm</p> <p>ES Aviso! El ajuste máximo del espacio en placa = 8 mm</p>									



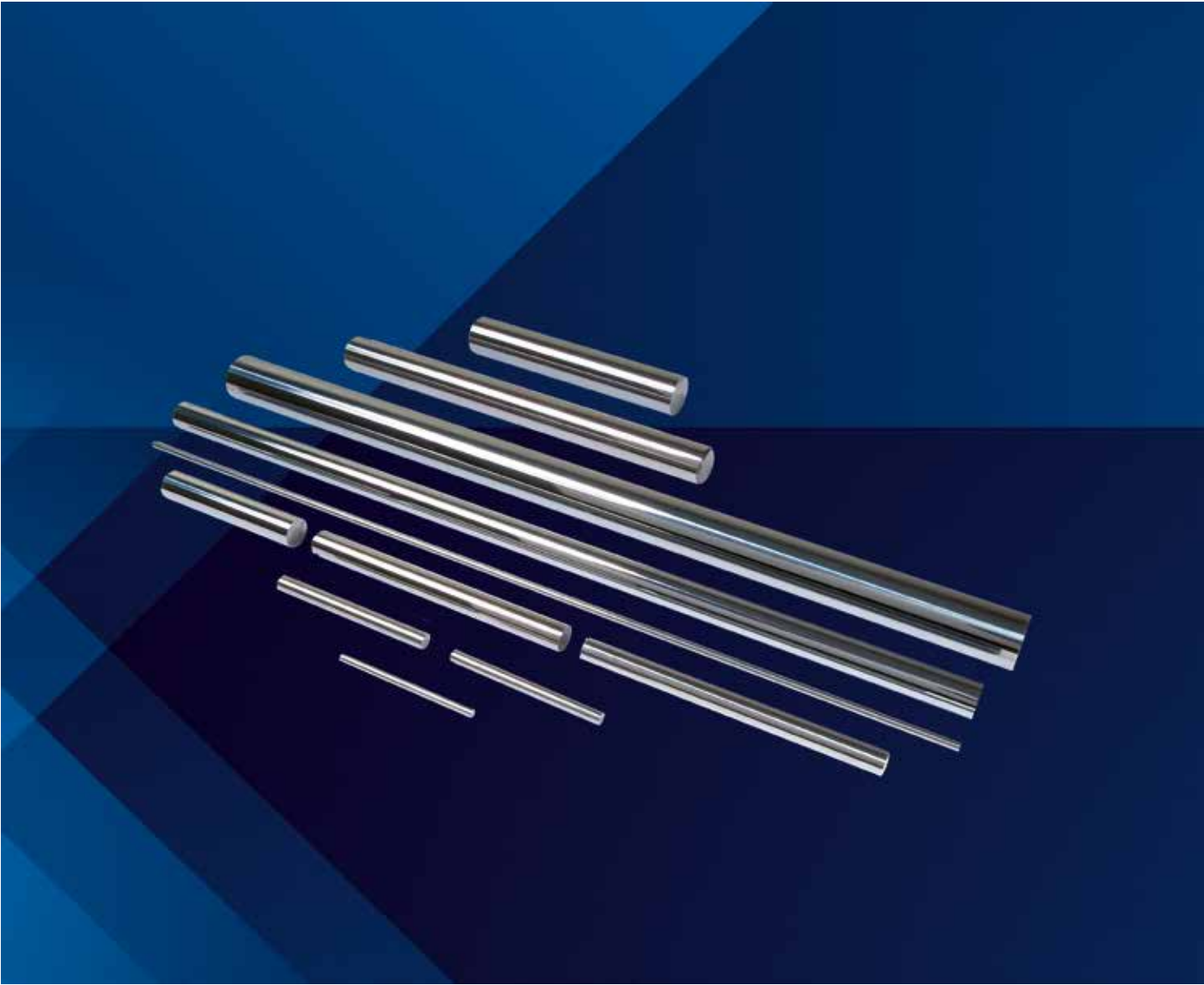
EN MicroSystem  
 DE MicroSystem  
 FR MicroSystem  
 IT MicroSystem  
 ES MicroSystem

EN Carbide blank with corrugated backing plate  
 DE Hartmetall-Blankett mit rückenverzählter Stützplatte  
 FR Plaquette carbure avec porte-plaquette denté  
 IT Coltello in HM zigrinato con piastra di supporto zigrinata  
 ES Cuchilla de metal duro con placa de soporte dentada por el lomo

L mm	W mm	T mm	T10MG	T04F-CR	L mm	W mm	T mm	EN Backing plate DE Stützplatte
40	38	2.5	131966	133530	40	35	7.5	131991
60	38	2.5	131967	133531	60	35	7.5	131992
80	38	2.5	131968	133532	80	35	7.5	131993
100	38	2.5	131969	133533	100	35	7.5	131994
130	38	2.5	131970	133534	130	35	7.5	131995
150	38	2.5	131971	133535	150	35	7.5	131996
180	38	2.5	131972	133536	180	35	7.5	131997
230	38	2.5	131973	133537	230	35	7.5	131998
240	38	2.5	131974	133538	240	35	7.5	131999
40	50	2.5	131975	133539	40	47	7.5	132000
60	50	2.5	131976	133540	60	47	7.5	132001
80	50	2.5	131977	133541	80	47	7.5	132002
100	50	2.5	131978	133542	100	47	7.5	132003
130	50	2.5	131979	133543	130	47	7.5	132004
150	50	2.5	131980	133544	150	47	7.5	132005
180	50	2.5	131981	133545	180	47	7.5	132006
240	50	2.5	131982	133546	240	47	7.5	132007
40	60	2.5	131983	133547	40	57	7.5	132008
60	60	2.5	131984	133548	60	57	7.5	132009
80	60	2.5	131985	133549	80	57	7.5	132010
100	60	2.5	131986	133550	100	57	7.5	132011
130	60	2.5	131987	133551	130	57	7.5	132012
150	60	2.5	131988	133552	150	57	7.5	132013
180	60	2.5	131989	133553	180	57	7.5	132014
240	60	2.5	131990	133554	240	57	7.5	132015









EN Rods  
DE Rundstäbe  
FR Barreaux cylindriques  
IT Cilindri  
ES Barras redondas

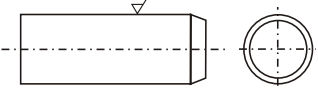
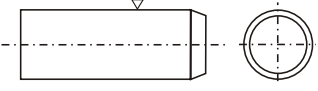
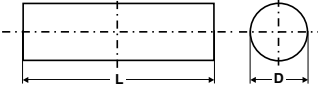


**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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EN Rods  
 DE Rundstäbe  
 FR Barreaux cylindriques  
 IT Cilindri  
 ES Barras redondas

	<p>EN Rods - ground            DE Rundstäbe - geschliffen            FR Barreaux cylindriques - affûtés            IT Cilindri - rettificati            ES Barras redondas - afilado</p>	<p><i>metric</i>  <i>metrisch</i>  <i>métrique</i>  <i>metrico</i>  <i>métrico</i></p> <p><b>154 - 157</b></p>
	<p>EN Rods - ground            DE Rundstäbe - geschliffen            FR Barreaux cylindriques - affûtés            IT Cilindri - rettificati            ES Barras redondas - afilado</p>	<p><i>inch</i></p> <p><b>158</b></p>
	<p>EN TIGRAmet - Heavy alloy tool body blanks            DE TIGRAmet - Grundkörperrohlinge aus Schwermetall            FR TIGRAmet - Ébauches en métal lourd            IT TIGRAmet - Corpo utensile grezzo in metallo pesante            ES TIGRAmet - Cuerpos de metal pesado</p>	<p><b>159</b></p>

- EN Rods - Carbide grades and their applications  
 DE Rundstäbe - Hartmetallsorten und ihre Anwendungen  
 FR Barreaux cylindriques - Les nuances de carbures et leurs applications  
 IT Cilindri - I tipi di metallo duro e le loro applicazioni  
 ES Barras redondas - Calidades de metal duro y sus aplicaciones

EN	TIGRA grade	ISO	USA	Hardness	Toughness	Bending strength
DE	TIGRA - Sorte	ISO	USA	Härte	Zähigkeit	Biegebruchfestigkeit
FR	Nuance TIGRA	ISO	USA	Dureté	Ténacité	Résistance à la flexion
IT	Tipo TIGRA	ISO	Stati uniti	Durezza	Tenacità	Resistenza flessionale
ES	Calidad TIGRA	ISO	EE.UU.	Dureza	Tenacidad	Resistencia a la flexión
	<b>T03F-CR</b>	<b>K01</b>	<b>C4+</b>			
	<b>T06MG</b>	<b>K01 - K10</b>	<b>C3++</b>			
	<b>T10MG</b> UNIVERSAL	<b>K10 - K40</b>	<b>C3+</b>			
	<b>T10MG-W</b>	<b>K10 - K40</b>	<b>C3+</b>			
	<b>T12SMG</b>		<b>C1++</b>			

CR = Co + Ni + Cr = corrosion resistant - korrosionsbeständig - anti-corrosif - inossidabile - anticorrosivo

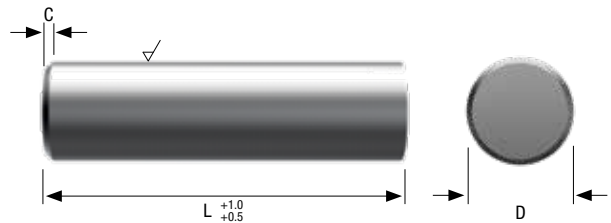
EN For technical data, please refer to the pages 4-5.  
 DE Die technischen Daten entnehmen Sie bitte den Seiten 4-5.  
 FR Pour les données techniques, veuillez voir aux pages 4-5.

Plastics Plastik Plastiques Plastica Plásticos	HDF HDF HDF HDF HDF	MDF MDF MDF MDF MDF	Chipboard Spanplatte Panneaux de particule Truciolare Panel de aglomerado	Hardwood Hartholz Bois dur Legno duro Madera dura	Softwood Weichholz Bois tendre Legno tenero Madera blanda	Main usage Hauptverwendung Usage principal Usso principale Usso principal
✓	✓	✓	✓	☐	☐	EN Highly abrasive materials, boards, larger tool diameters DE Stark abrasive Materialien, Platten, größere Werkzeugdurchmesser FR Matériaux très abrasifs, panneaux, diamètres d'outils plus grands IT Materiali altamente abrasivi, pannelli, utensili di diametro maggiore ES Materiales altamente abrasivos, tabla, diámetros de herramienta más grandes
✓	○	✓	✓	○	☐	EN Harder boards and woods, plastics, graphite, aluminum, larger tool diameters DE Härtere Platten und Holz, Kunststoff, Graphit, Aluminium, größere Werkzeugdurchmesser FR Panneaux durs et bois durs, plastiques, graphite, aluminium, diamètres d'outils plus grands IT Pannelli e legni più duri, plastica, grafite, alluminio, utensili di diametro maggiore ES Tableros y maderas más duras, plásticos, grafito, diámetros de aluminio, la herramienta más grande
○	○	○	○	✓	✓	EN Universal grade DE Universelle Sorte FR Nuance universelle IT Tipo universale ES Calidad universal
○	○	○	○	✓	✓	EN Wood and board, lower price DE Holz und Platten, niedrigerer Preis FR Bois et planches, prix plus bas IT Legno e pannelli, prezzo più basso ES Madera y tableros, precio más bajo
○	○	○	○	✓	✓	EN High speed cutting, smaller tool diameters DE Hochgeschwindigkeitsschneiden, kleinere Werkzeugdurchmesser FR Coupe à grande vitesse, diamètres d'outils plus petits IT Taglio ad alta velocità, utensili di diametro più piccolo ES Corte de alta velocidad, los diámetros más pequeños para herramientas

IT Per i dati tecnici, fare riferimento alle pagine 4-5.  
 ES Para los datos técnicos, consulte las páginas 4-5.

- ✓ best performance
- ✓✓ very good performance
- acceptable
- ☐ not suitable



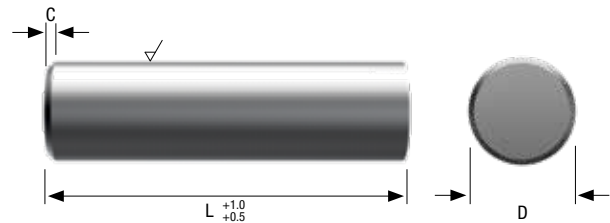


EN ground  
 DE geschliffen  
 FR meulé  
 IT rettificato  
 ES afilado

**h5**

EN Rods  
 DE Rundstäbe  
 FR Barreaux cylindriques  
 IT Cilindri  
 ES Barras redondas

D mm	L mm	C mm	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
1.0	330		035517			
1.5	100 330		036366 035518			
2.0	100 330		036368 035519			
2.5	50 100 330		049983 036370 035520			
3.0	38 43 50 330		053363 039162 034177 029708	114916 114915 114914 114910	100980 055446 055445 029707	148181 148162
3.5	330		035521			
4.0	43 50 55 330		039161 034178 039104 029710	114917 114918 114919 114911	106821 034158 101012 029709	148206 148163
4.5	330		035522			
5.0	43 50 330		052459 034179 034802	114920 114921 114912	106780 034159 036541	151498 148164
5.5	330		035523			
6.0	46 50 55 60 70 330	0.4 0.4 0.4 0.4 0.4	102374 043244 039107 034180 043527 029712	114922 114923 114924 114925 114926 114913	106785 106787 101016 034160 106399 029711	148182 148183 148184 148185 148165
6.5	330		035524			
7.0	330		035525	114927	036544	148166
7.5	330		035526			



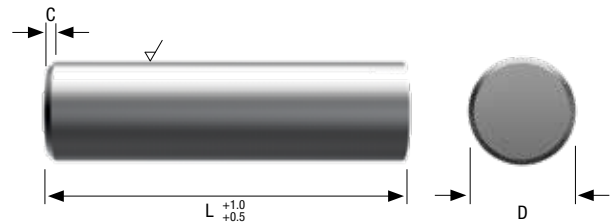
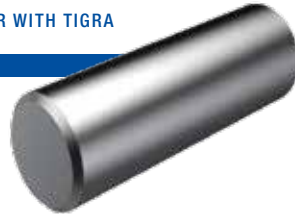
EN ground  
 DE geschliffen  
 FR meulé  
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**h5**

EN Rods  
 DE Rundstäbe  
 FR Barreaux cylindriques  
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 ES Barras redondas

D mm	L mm	C mm	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
8.0	50	0.6	045419	114941	106788	
	55	0.6	041602	114942	106789	
	56	0.6	102197	114943	106790	
	60	0.6	046522	114944	102018	148186
	70	0.6	038349	114945	101017	148187
	75	0.6	041481	114946	101018	
	80	0.6	034181	114947	034161	148188
	100	0.6	036392	114948	036391	148208
	330	0.6	029714	114928	029713	148167
8.5	330		035527			
9.0	330		035528			148168
9.5	330		035529			
10.0	65	0.6	102514	114951	106791	
	70	0.6	038350	114953	101019	148194
	75	0.6	038351	114954	055813	148196
	80	0.6	034182	114955	106402	148189
	90	0.6	052421	114956	106792	148197
	100	0.6	034183	114957	036399	148193
	110	0.6	111134			
	330	0.6	029716	114929	029715	148169
11.0	330		035531			148170
12.0	80	0.8	034184	114958	053694	148190
	90	0.8	038352	114959	101020	148191
	100	0.8	034185	114960	034165	148195
	110	0.8	052744	114961	106794	
	120	0.8	051331	114962	106795	
	155	0.8	106797	114963	106796	
	330	0.8	029718	114930	029717	148171
13.0	330		035534			



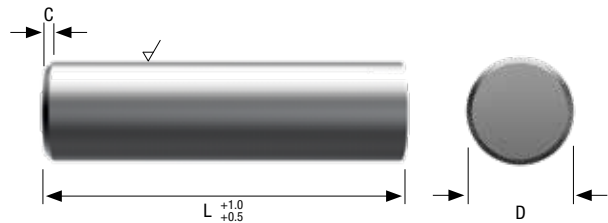
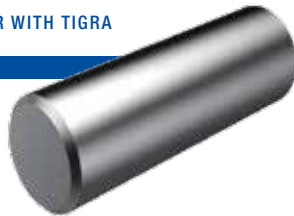


EN ground  
 DE geschliffen  
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 ES afilado

**h5**

EN Rods  
 DE Rundstäbe  
 FR Barreaux cylindriques  
 IT Cilindri  
 ES Barras redondas

D mm	L mm	C mm	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
14.0	90	0.8	041482	114964	101022	
	100	0.8	034186	114965	034166	
	110	0.8	038353	114966	101023	148198
	120	0.8	053659	114967	106801	
	330		029720	114931	029719	148172
15.0	330		035537			148173
16.0	80	0.8	052553	114972	106412	
	90	0.8	038354	114973	101024	148202
	93	0.8	106803	114974	106802	
	100	0.8	034187	114975	034167	148199
	110	0.8	038355	114976	101025	148200
	120	0.8	034188	114977	034168	148201
	130	0.8	053858	114978	106805	151499
	140	0.8	038356	114979	101026	
	150	0.8	043662	114980	103951	151702
	155	0.8	041603	114981	106806	
	170	0.8	052410	114982	106807	
	175	0.8	053515	114983	106808	
	180	0.8	111133			
330		029722	114932	029721	148174	
17.0	330		035540			
18.0	93	0.8	106809	114984	106810	
	100	0.8	034189	114985	034169	
	110	0.8	102817	114986	106811	
	115	0.8	038357	114987	101027	
	120	0.8	034190	114988	034170	
	330		029724	114933	029723	148175
19.0	330		035541			
20.0	100	1.0	034192	114989	034172	148203
	110	1.0	044472	114990	106403	151500
	115	1.0	038358	114991	101028	
	120	1.0	034193	114992	034173	148204
	125	1.0	100241	114993	106812	

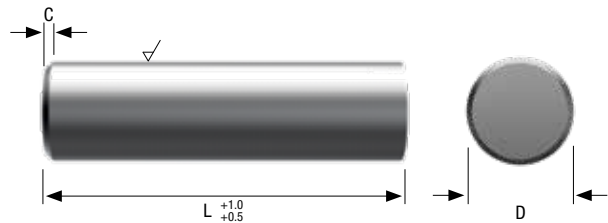


EN Rods  
 DE Rundstäbe  
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 IT Cilindri  
 ES Barras redondas

EN ground  
 DE geschliffen  
 FR meulé  
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 ES afilado

**h5**

D mm	L mm	C mm	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
20.0	130	1.0	106044	114994	106813	148192
	135	1.0	039115	114995	054819	148205
	140	1.0	038359	114996	101029	
	145	1.0	105702	114997	106814	
	150	1.0	034194	114998	034174	
	155	1.0	100073	114999	106815	
	170	1.0	055570	115000	106816	
	330		029726	114934	029725	148176
21.0	330		035542			
22.0	330		035543	114935	036562	148177
23.0	330		035544			
24.0	330		035545			
25.0	110	1.0	102424	115005	104306	
	125	1.0	106818	115006	106817	
	155	1.0	102765	115007	106819	
	330		029728	114936	029727	148178
26.0	330		035546			
27.0	330		036587			
28.0	330		035547	114937	036566	
29.0	330		036589			
30.0	330		035548	114938	036567	148179
31.0	330		036591			
32.0	330		035549	114939	036568	148180
35.0	330		035552	114940	036569	



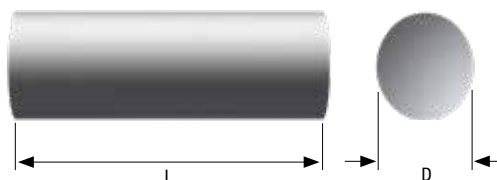
EN Rods  
 DE Rundstäbe  
 FR Barreaux cylindriques  
 IT Cilindri  
 ES Barras redondas

US style  
 inch

h5

Dia inch	L inch	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
1/8	1 1/2	049465	115022	054851	
	2	049466	115023	054852	
	2 1/2	049467	115024	054853	
	3	050160	115025	054854	
	4	049632	115026	054855	
	6	049469	115027	054856	
	12 1/4	050139	115008	054926	150304
5/32	3	049470	115052	054857	
	12 1/4	050140	115009	054927	
3/16	1 1/2	049471	115028	054858	
	2	049472	115029	054859	
	2 1/2	050165	115030	054860	
	3	100251			
	12 1/4	050147	115010	054929	
7/32	12 1/4	050148	115011	054930	
15/64	12 1/4	050149	115012	054931	
1/4	1 1/2	049474	115031	054873	
	2	049475	115032	054861	
	2 1/2	049476	115033	053113	
	3	050169	115034	053114	150306
	4	050170	115035	054862	
12 1/4	050150	115013	054821	150305	
5/16	2 1/2	054350			
	3 1/2	100287			
	4	100646			
	12 1/4	050151	115014	054933	
3/8	2 1/2	049477	115036	054863	
	3	049478	115037	053115	150307
	4	049633	115038	054864	
	6	049480	115039	054865	
	12 1/4	050152	115015	054934	150311
7/16	3	101122			
	6	101668			
	12 1/4	050153	115016	054935	

Dia inch	L inch	T10MG h5	T03F-CR h5	T06MG h5	T10MG-W h6
1/2	2	050175	115040	054866	
	2 1/2	050176	115041	054867	
	3	049481	115042	053116	150309
	3 1/2	045137	115043	053117	150308
	4	049482	115044	054868	
	6	101183			
	12 1/4	050154	115017	054936	150310
9/16	12 1/4	050155	115018	054937	
5/8	3	049483	115045	054869	
	3 1/2	050180	115046	054870	
	4	049484	115047	053118	
	5	050182	115048	054871	
	12 1/4	050156	115019	054939	
3/4	4	050183	115049	053119	
	5	054148			
	6	055232			
	12 1/4	050157	115020	054822	
1	5	050184	115050	054872	
	6	100224			
	12 1/4	050158	115021	054824	



- EN TIGRAmet - Heavy alloy tool body blanks
- DE TIGRAmet - Grundkörperrohlinge aus Schwermetall
- FR TIGRAmet - Ébauches en métal lourd
- IT TIGRAmet - Corpo utensile grezzo in metallo pesante
- ES TIGRAmet - Cuerpos de metal pesado

D mm	L mm	TIGRAmet
6.2	270	141103
8.2	270	132113
10.2	270	131337
12.2	85	135487
12.2	370	131338
13.2	370	131339
14.2	370	131340
15.2	370	131341
16.7	155	135488
16.7	270	131342
16.7	317	131343
16.7	370	131344
18.3	270	131345
20.2	105	135489
20.2	650	131346
21.2	650	131347
22.2	650	131348
25.2	650	135163
27.2	650	134373

EN Technical data  
 DE Technische Daten  
 FR Caractéristiques techniques  
 IT Dati tecnici  
 ES Datos técnicos

EN Density DE Dichte FR Densité IT Densità ES Densidad	17.1 g/cm <sup>3</sup>	0.62 lb/in <sup>3</sup>
EN Tungsten content DE Wolframgehalt FR Teneur en tungstène IT Contenuto di tungsteno ES Contenido de tungsteno	90%	90%
EN Binder DE Binder FR Liant IT Legante ES Composicion	Fe, Ni	Fe, Ni
EN Modulus of elasticity DE Elastizitätsmodul FR Module d'élasticité IT Modulo di elasticità ES Módulo de elasticidad	330 GPa	48 (10 <sup>3</sup> ) ksi
EN Hardness DE Härte FR Dureté IT Durezza ES Dureza	310 HV	31 HRC
EN Ultimate tensile strength DE Zugfestigkeit FR Résistance à la traction IT Resistenza di trazione ES Resistencia a la tracción	875 MPa	127 ksi



**TIGRA**

TOOLS CUT BETTER WITH TIGRA





EN TIGRALLOY products  
DE TIGRALLOY Produkte  
FR Produits TIGRALLOY  
IT Prodotti TIGRALLOY  
ES Productos TIGRALLOY

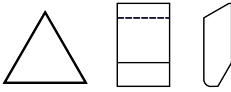
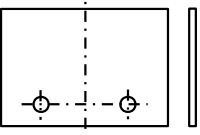
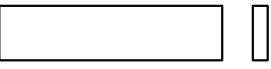


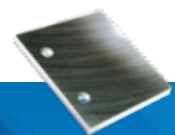
**TIGRA**

TOOLS CUT BETTER WITH TIGRA

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EN TIGRALLOY products  
 DE TIGRALLOY Produkte  
 FR Produits TIGRALLOY  
 IT Prodotti TIGRALLOY  
 ES Productos TIGRALLOY

	<p>EN TIGRALLOY - Saw tips          DE TIGRALLOY - Sägezähne          FR TIGRALLOY - Dents de scie          IT TIGRALLOY - Dentelli per lame          ES TIGRALLOY - Dientes de sierra</p>	<p>166 - 168</p>
	<p>EN TIGRALLOY - Blanks for profiling          DE TIGRALLOY - Blanketts zum Profilieren          FR TIGRALLOY - Plaquettes à profiler          IT TIGRALLOY - Placchette da profilare          ES TIGRALLOY - Placas para perfilar</p>	<p>169 - 171</p>
	<p>EN TIGRALLOY - Strips and preformed tips for brazed cutters          DE TIGRALLOY - Fräserplatten und Formplatten zum Lötén          FR TIGRALLOY - Plaquettes à braser          IT TIGRALLOY - Placchette per frese saldobrasate          ES TIGRALLOY - Placas para equipar fresas y herramientas soldadas</p>	<p>172 - 173</p>





## EN TECHNICAL DATA AND APPLICATION RECOMMENDATIONS

(for more information please see our TIGRALLOY brochure and our technical guidebook "Carbide for cutting tools")

TIGRALLOY, an alloy which mainly consists of cobalt, chromium and tungsten, takes a special position within the cutting materials being neither tungsten carbide nor HSS.

Even though its hardness is rather low, TIGRALLOY can achieve multiple lifetimes of tungsten carbide in many applications because its wear pattern is completely different. In addition, TIGRALLOY is extremely corrosion resistant, tough and heat resistant up to around 800°C / 1500°F. The high bending strength and material composition allow steep angles and very sharp cutting edges which reduces cutting pressure and can achieve excellent surface qualities. TIGRALLOY is made by powder metallurgy and thus, compared to similar, cast materials 100% void-free.

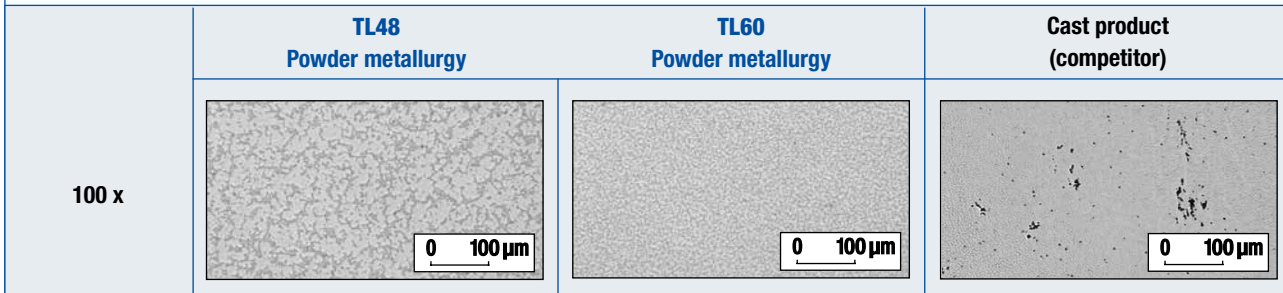


Fig. 1: Homogeneous, void-free TIGRALLOY made by powder metallurgy compared to a similarly alloyed but cast product.

### 2 grades are offered:

**TL48** (hardness 48 HRC), especially as saw tips for processing green lumber. Here, the high toughness is used to make TL48 the ideal cutting material for circular, band- and gangsaws for the saw mill industry. Available in shapes of triangles, rectangles and typical saw tip shapes.

**TL60** (hardness 60 HRC) for indexable inserts, blanks for profiling, planer knives, back corrugated knives and STBs for brazed tools: perfect surface qualities and excellent lifetime in the described types of wood (without gluelines), compare to Fig. 2. In addition, weight of the blades is reduced by around 40%.

### TIGRALLOY provides decisive advantages in most solid woods:

- **Tool life:** in many types of wood tool life is increased substantially compared to tungsten carbide, especially in hardwoods.
- **Excellent surface quality:** The high bending strength and the composition of the material allow very sharp cutting edges, which reduce the cutting pressure.
- **Increased productivity** as TIGRALLOY makes possible to run in greater feed rates and revolution speeds.
- **Secure processing:** TIGRALLOY is required to 100% free of macropores, thus no multiple production due to porosity.

### TL48 - for circular saw blades and band saws

#### recommended:

nearly all kinds of raw woods, frozen wood  
recycling of wood with impurities (e.g. pellets)

#### not recommended:

board materials, glued-up wood  
extremely abrasive or resinified woods

### TL60 - for planers, indexable inserts and brazed profiling tools

#### recommended:

Abachi	Incense cedar	Pine
Afromosia	Larch	Plane
Afzelia (min. 12% humidity)	Limba	Poplar
Alder	Mahogany (American red)	Ramin
Ash	Makoré	Redwood
Avodiré	Maple (European)	Sapele
Beech (min. 12% humidity)	Mengkulang	Sipo
Birch (European)	Meranti	Sugar pine
Cedar (Western Red)	Oak (American Red)	Tasmanian Oak
Cedar	Oak (European)	Tola branca
Cherry	Oak (Japanese)	Walnut
Chestnut (cultivated)	Okan	Willow
Elm	Okoumé	
Fir	Oregon pine	
Framiré	Parana pine	
Hemlock	Pear	

#### not recommended:

board materials, glued-up wood, extremely abrasive or resinified woods	
Afzelia (dry)	Mukulungu
Azobé	Muninga
Balau	Oak American white
Beech (dry)	Ogea
Boxwood	Padouk
Bubinga	Panga Panga
Hickory	Purpleheart
Hornbeam	Red kabbes
Keruing	Rosewood Rio
Lignum vitae	Saligna gum
Maple American	Tali
Merbau	Teak
Movingui	Wengé

Fig.: Application recommendations for both TIGRALLOY grades

## DE TECHNISCHE DATEN UND ANWENDUNGSEMPFEHLUNGEN

(Weitere Informationen finden Sie in unserer TIGRALLOY Broschüre und unserem technischen Ratgeber "Hartmetall für Schneidwerkzeuge")

TIGRALLOY, eine Legierung hauptsächlich aus Kobalt, Chrom und Wolfram, nimmt eine Sonderstellung in den Schneidstoffen ein, ist sie doch weder Hartmetall noch HSS.

Trotz der geringen Härte erreicht TIGRALLOY in vielen Anwendungen deutlich bessere Standwege als Hartmetall. Dies liegt an einem komplett anderen Verschleißverhalten, welches durch die Zusammensetzung erreicht wird. Zudem ist TIGRALLOY extrem korrosionsbeständig, bruchfest und bis 800°C hitzebeständig. Die hohe Biegebruchfestigkeit und die Materialzusammensetzung erlauben spitze Winkel und sehr scharfe Schneidkanten, was den Schnittdruck verringert und häufig eine herausragende Oberflächenqualität erzielt. TIGRALLOY wird pulvermetallurgisch hergestellt und ist deshalb, im Gegensatz zu gegossenen, ähnlichen Materialien, 100% frei von Makroporen (vgl. Abb. 1).

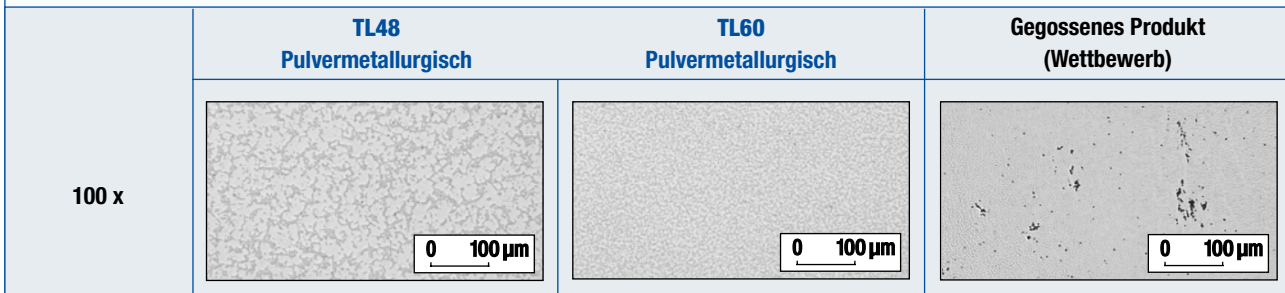


Abb. 1: Homogenes, makroporenfreies TIGRALLOY aus pulvermetallurgischer Herstellung im Vergleich mit ähnlich legiertem, aber gegossenem Produkt

### 2 Sorten sind im Angebot:

**TL48** (Härte 48 HRC), insbesondere als Sägezähne in der Rohholzbearbeitung. Hier wird die Zähigkeit voll ausgenutzt, was TL48 zum idealen Schneidstoff für Kreis-, Blockband- und Gattersägen in der Sägewerksindustrie macht. Verfügbar als Dreiecke, Rechtecke und in typischen HM-Zahngeometrien.

**TL60** (Härte 60 HRC) für Wendeplatten, Blanketts zum Profilieren, Hobelmesser, rückenverzahnte Messer und Lötplatten: perfekte Oberflächengüten und sehr gute Standwege in den beschriebenen Holzsorten (ohne Hartleimfugen). Zudem erreichen Sie eine Gewichtsersparnis der Schneiden um circa 40%.

### TIGRALLOY bietet entscheidende Vorteile in den meisten Massivhölzern:

- **Werkzeuglebensdauer:** In vielen Holzarten ist die Werkzeuglebensdauer im Vergleich zu Wolframkarbid, insbesondere bei Hartholz, deutlich erhöht.
- Ausgezeichnete **Oberflächenqualität:** Die hohe Biegefestigkeit und die Zusammensetzung des Materials erlauben sehr scharfe Schneidkanten, die den Schnittdruck reduzieren.
- Erhöhte **Produktivität,** da TIGRALLOY es ermöglicht, in größeren Vorschüben und Drehzahlen zu laufen.
- **Sichere Verarbeitung:** TIGRALLOY erfordert, 100% frei von Makroporen zu sein, also keine Mehrfachproduktion durch Porosität.

### TL48 - für Kreissägen und Bandsägen

#### empfohlen:

nahezu alle Arten von Rohholz, gefrorene Hölzer  
Recycling von Holz mit Eisen (z.B. Paletten)

#### nicht empfohlen:

Verleimhölzer, Plattenmaterial  
Extrem abrasive Tropenhölzer

### TL60 - zum Hobeln, für gelötete und auswechselbare Profilwerkzeuge

#### empfohlen:

Abachi	Framiré	Ramin
Afromosia	Hemlock	Redwood
Afzelia (min. 12% Feuchte)	Kastanie (edel)	Sapelli
Ahorn	Kiefer	Sipo
Avodire	Kirschbaum	Sugar pine
Birke (europäisch)	Lärche	Tanne
Birnbaum	Limba	Tasmanian Oak
Bleistiftzeder (kalifornisch)	Macoré	Tola
Brasilkiefer	Mahagonie	Ulme
Buche (min. 12% Feuchte)	Mengkulang	Weide
Douglasie (amerikanisch)	Meranti	Zeder (Western Red)
Eiche (europäisch)	Nussbaum	Zeder
Eiche (japanisch)	Okan	
Eiche (rot)	Okoumé	
Erle	Pappel	
Esche	Platane	

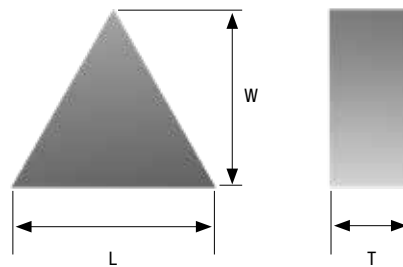
#### nicht empfohlen:

Verleimhölzer, Verleimholz,  
Extrem abrasive Tropenhölzer

Afzelia (trocken)	Merbau
Ahorn (amerikanisch)	Movingui
Amarant	Mukulungu
Azobé	Muninga
Balau	Padouk
Bubinga	Palisander (Rio)
Buche (trocken)	Panga Panga
Buche (weiß)	Pockholz
Buchsbaum	Sidney blue gum
Daniella	Sucupira
Eiche (amerikanische Weißeiche)	Tali
Hickory	Teak
Keruing	Wengé

Fig.: Anwendungsempfehlungen für die beiden TIGRALLOY-Sorten





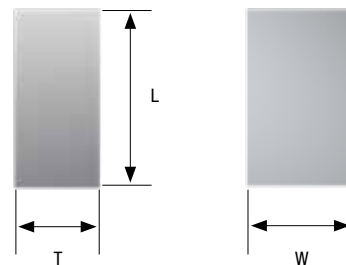
EN TIGRALLOY - Saw tips  
 DE TIGRALLOY - Sägezähne  
 FR TIGRALLOY - Dents de scie  
 IT TIGRALLOY - Dentelli per lame  
 ES TIGRALLOY - Dientes de sierra

### Triangles 60° - inch

60T.180	L		W		T/Kerf		TL48
	inch	mm	inch	mm	inch	mm	
.084	0.18	4.572	0.156	4.0	0.084	2.1	139103
.103	0.18	4.572	0.156	4.0	0.103	2.6	139102
.105	0.18	4.572	0.156	4.0	0.105	2.7	139101
.110	0.18	4.572	0.156	4.0	0.110	2.8	138577
.120	0.18	4.572	0.156	4.0	0.120	3.0	138582
.130	0.18	4.572	0.156	4.0	0.130	3.3	138583
.140	0.18	4.572	0.156	4.0	0.140	3.6	138584
.150	0.18	4.572	0.156	4.0	0.150	3.8	138585
.160	0.18	4.572	0.156	4.0	0.160	4.1	138586
.170	0.18	4.572	0.156	4.0	0.170	4.3	138588
.180	0.18	4.572	0.156	4.0	0.180	4.6	141545
.190	0.18	4.572	0.156	4.0	0.190	4.8	141546

60T.250	L		W		T/Kerf		TL48
	inch	mm	inch	mm	inch	mm	
.110	0.25	6.35	0.217	5.5	0.110	2.8	132644
.120	0.25	6.35	0.217	5.5	0.120	3.0	132645
.130	0.25	6.35	0.217	5.5	0.130	3.3	132646
.140	0.25	6.35	0.217	5.5	0.140	3.6	132647
.150	0.25	6.35	0.217	5.5	0.150	3.8	132648
.160	0.25	6.35	0.217	5.5	0.160	4.1	132649
.170	0.25	6.35	0.217	5.5	0.170	4.3	132650
.180	0.25	6.35	0.217	5.5	0.180	4.6	132651
.190	0.25	6.35	0.217	5.5	0.190	4.8	132652
.200	0.25	6.35	0.217	5.5	0.200	5.1	132653
.210	0.25	6.35	0.217	5.5	0.210	5.3	132654
.220	0.25	6.35	0.217	5.5	0.220	5.6	132655
.230	0.25	6.35	0.217	5.5	0.230	5.8	132656
.240	0.25	6.35	0.217	5.5	0.240	6.1	132657
.250	0.25	6.35	0.217	5.5	0.250	6.4	132658
.260	0.25	6.35	0.217	5.5	0.260	6.6	132659
.270	0.25	6.35	0.217	5.5	0.270	6.9	132660
.280	0.25	6.35	0.217	5.5	0.280	7.1	132661

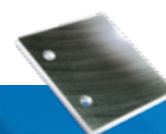
EN We supply all kinds of TIGRALLOY saw tips. Just give us dimensions and quantities.  
 DE Wir liefern alle Arten von TIGRALLOY Sägezähne. Bitte geben Sie uns nur Abmessungen und Mengen an.  
 FR Nous fournissons toutes sortes de dents de scie TIGRALLOY. Il suffit de nous donner des dimensions et des quantités s'il vous plaît.  
 IT Forniamo tutti i tipi di TIGRALLOY inoltre ha visto punte. Per favore basta darci le dimensioni e le quantità soddisfanno.  
 ES Suministramos todo tipo de TIGRALLOY vieron consejos. Sólo nos dan las dimensiones y cantidades por favor.

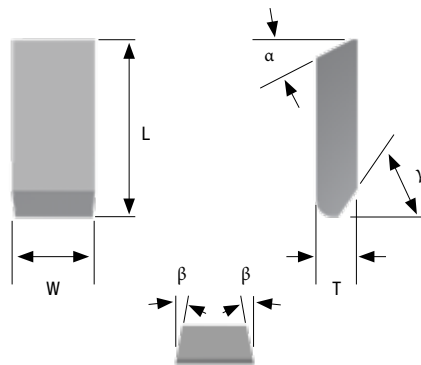


- EN TIGRALLOY - Saw tips
- DE TIGRALLOY - Sägezähne
- FR TIGRALLOY - Dents de scie
- IT TIGRALLOY - Dentelli per lame
- ES TIGRALLOY - Dientes de sierra

### Rectangles - inch

L		T		W		TL48
inch	mm	inch	mm	inch	mm	
0.18	4.57	0.090	2.29	0.125	3.18	141186
0.18	4.57	0.090	2.29	0.150	3.81	141187
0.205	5.21	0.105	2.67	0.165	4.19	141196
0.240	6.10	0.090	2.29	0.125	3.18	141176
0.240	6.10	0.120	3.05	0.150	3.81	132670
0.240	6.10	0.120	3.05	0.175	4.45	132672
0.240	6.10	0.120	3.05	0.187	4.75	132673
0.240	6.10	0.120	3.05	0.200	5.08	132674
0.300	7.62	0.120	3.05	0.150	3.81	141208
0.300	7.62	0.120	3.05	0.187	4.75	141212
0.300	7.62	0.125	3.18	0.150	3.81	132663
0.300	7.62	0.125	3.18	0.165	4.19	132665
0.300	7.62	0.125	3.18	0.175	4.45	132666
0.300	7.62	0.125	3.18	0.187	4.750	132667
0.300	7.62	0.125	3.18	0.200	5.08	132668
0.300	7.62	0.150	3.81	0.150	3.81	141201
0.300	7.62	0.150	3.81	0.165	4.19	141203
0.300	7.62	0.150	3.81	0.225	5.72	141207
0.300	7.62	0.150	3.81	0.250	6.35	141586





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inch

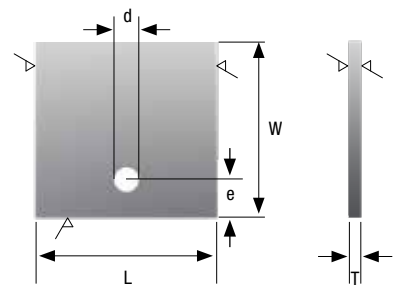
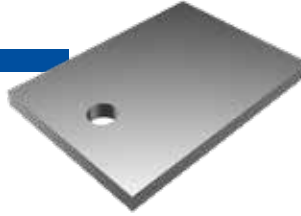
CWF	L		T		W/Kerf		TL48
	inch	mm	inch	mm	inch	mm	
.100	0.5	12.7	0.125	3.2	0.100	2.5	137175
.110	0.5	12.7	0.125	3.2	0.110	2.8	137176
.120	0.5	12.7	0.125	3.2	0.120	3.1	135859
.130	0.5	12.7	0.125	3.2	0.130	3.3	135860
.140	0.5	12.7	0.125	3.2	0.140	3.6	135861
.150	0.5	12.7	0.125	3.2	0.150	3.8	135862
.160	0.5	12.7	0.125	3.2	0.160	4.1	137177
.165	0.5	12.7	0.125	3.2	0.165	4.2	135863
.170	0.5	12.7	0.125	3.2	0.170	4.3	135864
.180	0.5	12.7	0.125	3.2	0.180	4.6	137178
.190	0.5	12.7	0.125	3.2	0.190	4.8	137179
.200	0.5	12.7	0.125	3.2	0.200	5.1	137180
.210	0.5	12.7	0.125	3.2	0.210	5.3	137181
.220	0.5	12.7	0.125	3.2	0.220	5.6	137182
.230	0.5	12.7	0.125	3.2	0.230	5.8	137183
.240	0.5	12.7	0.125	3.2	0.240	6.1	137184
.250	0.5	12.7	0.125	3.2	0.250	6.4	137185
.437	0.5	12.7	0.125	3.2	0.437	11.1	139104
.500	0.5	12.7	0.125	3.2	0.500	12.7	139105

metric

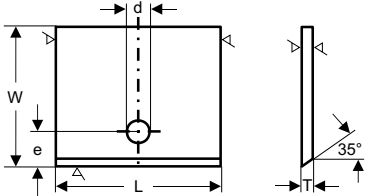
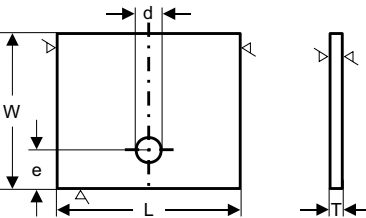
8.5 x 2.5	L	T	W/Kerf	TL48
	mm	mm	mm	
	8.5	2.5	2.4	137420
	8.5	2.5	2.6	138684
	8.5	2.5	2.8	137602
	8.5	2.5	3.0	138688
	8.5	2.5	3.2	138707
	8.5	2.5	3.4	138709

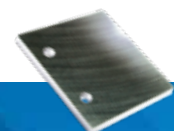
11 x 4	L	T	W/Kerf	TL48
	mm	mm	mm	
	11.0	4.0	4.0	137197
	11.0	4.0	4.5	137198
	11.0	4.0	5.0	136535
	11.0	4.0	5.5	137199
	11.0	4.0	6.0	137200
	11.0	4.0	6.5	137201

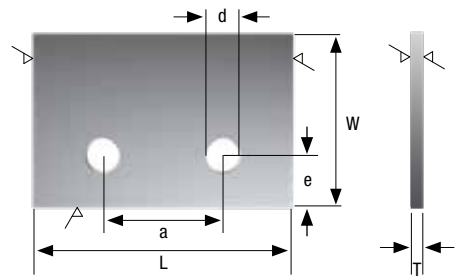
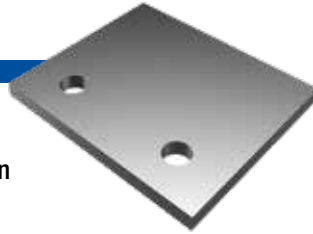
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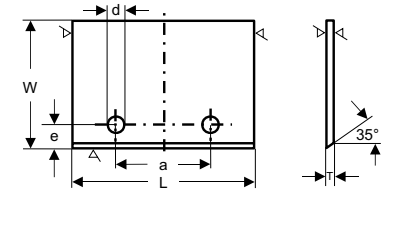
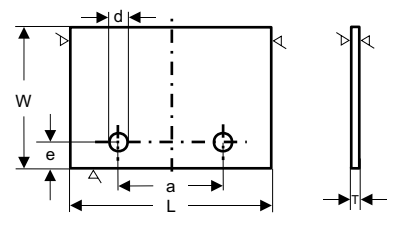
- EN TIGRALLOY - Blanks for profiling  
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 FR TIGRALLOY - Plaquettes à profiler  
 IT TIGRALLOY - Placchette da profilare  
 ES TIGRALLOY - Placas para perfilar

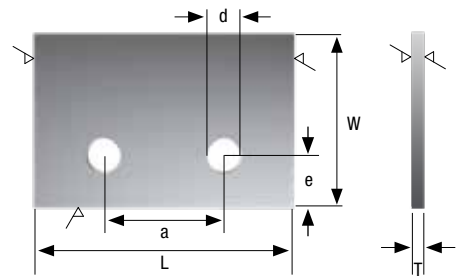
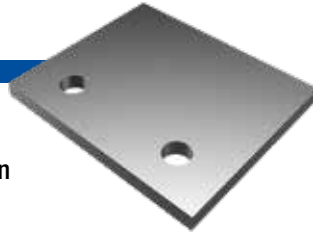
	L	W	T	d	e	TL60
	mm	mm	mm	mm	mm	
	15.0	20.4	2.0	4.1	6.3	050254
	15.0	25.4	2.0	4.1	6.3	062363
	15.0	30.4	2.0	4.1	6.3	050432
	20.0	20.4	2.0	4.1	6.3	050433
	20.0	25.4	2.0	4.1	6.3	050434
	20.0	30.4	2.0	4.1	6.3	050435
	25.0	20.4	2.0	4.1	6.3	061898
	25.0	25.4	2.0	4.1	6.3	050437
	25.0	30.4	2.0	4.1	6.3	050438
	30.0	25.4	2.0	4.1	6.3	062030
	30.0	30.4	2.0	4.1	6.3	061982
	30.0	35.4	2.0	4.1	6.3	062039
	35.0	30.4	2.0	4.1	6.3	061960
	35.0	35.4	2.0	4.1	6.3	050443
		20.0	20.4	2.0	4.5	6.5
20.0		25.4	2.0	4.5	6.5	050444
20.0		30.4	2.0	4.5	6.5	062217
25.0		25.4	2.0	4.5	6.5	050446
25.0		30.4	2.0	4.5	6.5	050447
30.0		30.4	2.0	4.5	6.5	050448



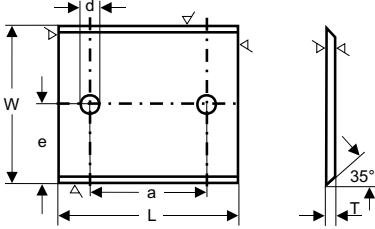


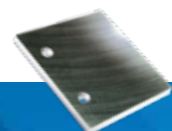
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	L mm	W mm	T mm	d mm	a mm	e mm	TL60
	30.0	25.4	2.0	4.1	14.0	6.3	050256
	30.0	30.4	2.0	4.1	14.0	6.3	062258
	30.0	35.4	2.0	4.1	14.0	6.3	062101
	40.0	25.4	2.0	4.1	26.0	5.5	062124
	40.0	30.0	2.0	4.1	20.0	5.5	046483
	40.0	35.0	2.0	4.1	26.0	5.5	046485
	40.0	35.4	2.0	4.1	26.0	6.0	062075
	40.0	35.4	2.0	4.1	26.0	6.3	050453
	40.0	40.4	2.0	4.1	26.0	6.0	062117
	40.0	45.4	2.0	4.1	26.0	6.0	062083
	50.0	20.0	2.0	4.1	26.0	5.5	050457
	50.0	25.4	2.0	4.1	26.0	5.5	062064
	60.0	25.4	2.0	4.1	26.0	5.5	050459
	60.0	35.4	2.0	4.1	44.0	6.0	062289
	60.0	40.0	2.0	4.1	44.0	6.0	046487
	30.0	30.4	3.0	4.1	14.0	6.5	105787
	30.0	35.4	3.0	4.1	14.0	6.5	106190
	40.0	30.0	3.0	4.1	20.0	5.5	046484
	30.0	20.4	2.0	4.1	14.0	6.5	050257
	30.0	25.4	2.0	4.1	19.0	4.75	062063
	30.0	25.4	2.0	4.1	14.0	6.5	050464
	30.0	30.4	2.0	4.1	14.0	6.5	050465
	30.0	30.0	2.0	4.1	19.0	4.75	062278
	35.0	25.4	2.0	4.1	14.0	6.5	050467
	35.0	30.4	2.0	4.1	14.0	6.5	062274
	40.0	20.4	2.0	4.1	26.0	6.5	062105
	40.0	25.4	2.0	4.1	26.0	6.5	047452
	40.0	30.4	2.0	4.1	26.0	6.5	050470
	40.0	35.4	2.0	4.1	26.0	5.5	050471
	50.0	20.4	2.0	4.1	26.0	6.5	050472
	50.0	25.4	2.0	4.1	26.0	6.5	050473
	50.0	30.4	2.0	6.0	26.0	6.5	047593
	60.0	20.4	2.0	4.1	26.0	6.5	050474
	60.0	25.4	2.0	4.1	26.0	6.5	050475
	60.0	30.4	2.0	4.1	26.0	6.5	050476



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	L	W	T	d	a	TL60
	mm	mm	mm	mm	mm	
	40.0	25.0	2.0	4.1	20.0	050258
	40.0	30.0	2.0	3.5	20.0	050477
	40.0	30.0	2.0	4.1	20.0	050478
	40.0	35.0	2.0	4.1	26.0	047372
	40.0	40.0	2.0	3.5	26.0	050479
	45.0	35.0	2.0	4.1	26.0	046971
	50.0	25.0	2.0	4.1	26.0	050481
	50.0	45.0	2.0	4.1	34.0	050482
	60.0	35.0	2.0	4.1	26.0	046520
	60.0	35.0	2.0	4.1	44.0	047030







- EN TIGRALLOY - Strips for brazed cutters
- DE TIGRALLOY - Fräserplatten zum Löten
- FR TIGRALLOY - Plaquettes à braser
- IT TIGRALLOY - Placchette per frese saldobrasate
- ES TIGRALLOY - Placas para equipar fresas

metric

L	W	T	TL60
mm	mm	mm	
165	10	3	050137
165	12	3	050138
165	15	3	050185
165	16	3	050186
165	18	3	050187
165	20	3	050188
165	25	3	050189
165	10	4	050190
165	12	4	050191
165	15	4	050192
165	16	4	050193
165	18	4	050194
165	20	4	050195
165	25	4	050196
165	30	4	050197
165	10	5	050199
165	12	5	050200
165	15	5	050201
165	16	5	050202
165	18	5	050203
165	20	5	050204
165	25	5	050205
165	30	5	050206
165	35	5	050207
165	40	5	050209
165	20	8	102187
165	25	8	119946
165	30	8	138563
165	35	8	102188



- EN TIGRALLOY - Strips for brazed cutters
- DE TIGRALLOY - Fräserplatten zum Löten
- FR TIGRALLOY - Plaquettes à braser
- IT TIGRALLOY - Placchette per frese saldobrasate
- ES TIGRALLOY - Placas para equipar fresas

**STBs - inch**

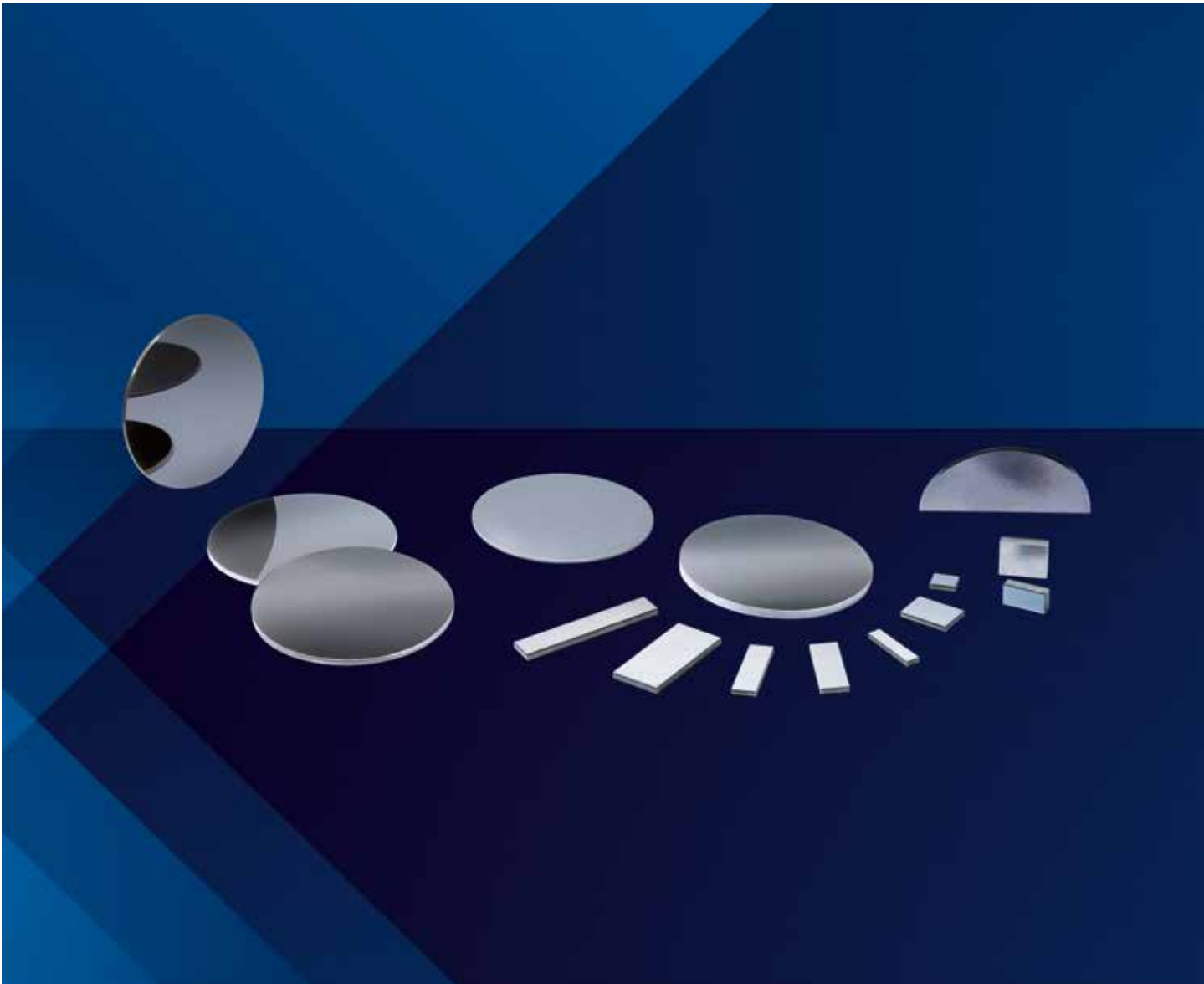
L		W		T		TL60
inch	mm	inch	mm	inch	mm	
6	152,4	3/8	9,5	3/32	2,38	046284
6	152,4	1/2	12,7	3/32	2,38	046290
6	152,4	5/8	15,88	3/32	2,38	046291
6	152,4	3/4	19,0	3/32	2,38	046292
6	152,4	7/8	22,23	3/32	2,38	046293
6	152,4	1	25,4	3/32	2,38	046294
6	152,4	1 1/8	28,58	3/32	2,38	046352
6	152,4	1 1/4	31,75	3/32	2,38	046353
6	152,4	1 1/2	38,1	3/32	2,38	046354
6	152,4	3/8	9,53	1/8	3,18	046295
6	152,4	1/2	12,7	1/8	3,18	046296
6	152,4	5/8	15,88	1/8	3,18	046297
6	152,4	3/4	19,05	1/8	3,18	046298
6	152,4	7/8	22,23	1/8	3,18	046299
6	152,4	1	25,4	1/8	3,18	046300
6	152,4	1 1/8	28,58	1/8	3,18	046454
6	152,4	1 1/4	31,75	1/8	3,18	046301
6	152,4	1 1/2	38,1	1/8	3,18	046302
6	152,4	3/8	9,53	5/32	3,97	046459
6	152,4	1/2	12,7	5/32	3,97	046460
6	152,4	5/8	15,88	5/32	3,97	046461
6	152,4	3/4	19,05	5/32	3,97	046462
6	152,4	7/8	22,23	5/32	3,97	046463
6	152,4	1	25,4	5/32	3,97	046464
6	152,4	1 1/8	28,58	5/32	3,97	046465
6	152,4	1 1/4	31,75	5/32	3,97	046466
6	152,4	1 1/2	38,1	5/32	3,97	046467
6	152,4	3/8	152,4	3/16	4,76	046469
6	152,4	1/2	152,4	3/16	4,76	046470
6	152,4	5/8	152,4	3/16	4,76	046471
6	152,4	3/4	152,4	3/16	4,76	046472
6	152,4	7/8	152,4	3/16	4,76	046473
6	152,4	1	152,4	3/16	4,76	050603
6	152,4	1 1/8	152,4	3/16	4,76	046474
6	152,4	1 1/4	152,4	3/16	4,76	046475
6	152,4	1 1/2	152,4	3/16	4,76	046476





**TIGRA**

TOOLS CUT BETTER WITH TIGRA





EN PCD - Blanks and segments  
DE PKD - Ronden und Segmente  
FR PCD - Rondelles et segments  
IT PCD - Dischi e settori  
ES PCD - Sectores y segmentos


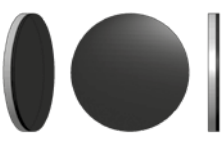
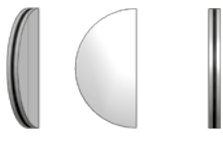



**TIGRA**

TOOLS CUT BETTER WITH TIGRA

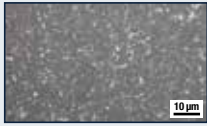
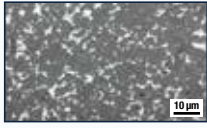






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- EN PCD - Blanks and segments  
 DE PKD - Ronden und Segmente  
 FR PCD - Rondelles et segments  
 IT PCD - Dischi e settori  
 ES PCD - Sectores y segmentos

	EN PCD-Grade chart DE PKD-Sortentabelle FR Tableau des nuances PCD IT PCD-Tabella dei tipi ES PCD-Tabla de calidades	<b>178 - 180</b>
	EN Standard and special PCD blanks DE Standard- und Spezial-PKD-Ronden FR Rondelles PCD standard et spéciales IT Dischi standard e speciali in PCD ES Rodajas PCD estándar y especiales	<b>181 - 182</b>
	EN Sandwich PCD - Half blanks DE Sandwich-PKD - Halbronden FR Demies rondelles sandwich PCD IT Mezzidischi in Sandwich PCD ES Semi-rodajas PCD en sandwich	<b>183</b>
	EN PCD segments DE PKD-Segmente FR Segments PCD IT Settori in PCD ES Segmentos PCD	<b>184 - 185</b>



- EN PCD - Polycrystalline diamond - PCD grades and their applications  
 DE PKD - Polykristalliner Diamant - PKD-Sorten und ihre Anwendungen  
 FR PCD - Diamant policristallin - Les nuances de PCD et leurs applications  
 IT PCD - Diamante policristallino - I tipi di PCD e le loro applicazioni  
 ES PCD - Diamante policristalino - Calidades de PCD y sus aplicaciones





EN TIGRA grade DE TIGRA - Sorte FR Nuance TIGRA IT Tipo TIGRA ES Calidad TIGRA	Grain size and structure Korngröße und -struktur Grosseur et structure du grain Grossezza e struttura del grano Tamaño y estructura del grano ( $\mu\text{m}$ )	Binder type Binderart Type de liant Tipo legante Tipo de composición	Diamond content Diamantgehalt Teneur en diamant Contenuto di diamante Contenido de diamante	Toughness Zähigkeit Ténacité Tenacità Tenacidad	Bending strength Biegebruchfestigkeit Résistance à la flexion Resistenza flessionale Resistencia a la flexión	Abrasion resistance Verschleißfestigkeit Résistance à l'abrasion Resistenza all'abrasione Resistencia a la abrasión
ES	0.5 - 0.8 	standard	standard	↑	↑	→
FX	2 - 4 	special	standard	↙	↑	↙
MS	8 - 10 	standard	standard	→	↖	→
MS-W*	8 - 10 	standard	standard	→	↖	→
MX+	8 - 10 	special	standard	→	↖	↖
MU+	2 - 4 + 8 - 10 	ultrahard	very high	↖	→	↑
CX	20 - 35 	special	standard	↑	→	↖
CU	2 - 4 + 20 - 35 	ultrahard	very high	↑	↙	↑

- \* EN Special for woodworking
- \* DE Speziell für die Holzbearbeitung
- \* FR Spéciale pour le travail du bois
- \* IT Speciale per la lavorazione del legno
- \* ES Especial para el trabajo de la madera

EN For technical data, please refer to page 7.  
 DE Die technischen Daten entnehmen Sie bitte der Seite 7.  
 FR Pour les données techniques, veuillez voir au page 7.

EN Roughing DE Schruppen FR Dégrossissage IT Sgrossatura ES Desbaste	Semi-finishing Vorschlichten Semi-finissage Semifinitura Semi-acabado	Finishing Schlichten Finissage Finitura Acabado	Super-finishing Feinschlichten Super-finissage Superfinitura Super-acabado	Al <6% Si	Al 6-12% Si	Al >12% Si	Composites based on Verbundwerkstoffe auf Basis Composites à base Compositi a base Compuestos a base de			Comment Kommentar Commentaire Comento Comentario
							Fibers Fasern Fibres Fibre Fibras	Minerals Mineralien Minéraux Minerali Minerales	Wood Holz Bois Legno Madera	
☐	○	✓	✓	✓	✓	○	☐	☐	☐	EN For super-finishing DE Zum Feinschlichten FR Pour le superfinissage IT Per la superfinitura ES Para el superacabado
○	✓	✓	✓	✓	○	☐	○	○	☐	EN For low Si%-Al DE Für niedrig-Si%-Al FR Pour un bas Si%-Al IT Per un basso Si%-Al ES Para bajo Si%-Al
✓	✓	✓	○	✓	✓	○	✓	✓	✓	EN Universal use, medium grain DE Universeller Einsatz, mittl. Korn FR Utilisation univers., grain moyen IT Uso universale, grano medio ES Uso universal, grano medio
✓	✓	✓	○	✓	✓	○	✓	✓	✓	EN Universal for woodworking DE Universell für die Holzbearbeitung FR Universel pour le travail du bois IT Universale per la lavorazione del legno ES Universal para trabajar la madera
✓	✓	✓	○	✓	✓	✓	✓	○	○	EN Universal for aluminum DE Universell für Aluminium FR Universel pour l'aluminium IT Universale per alluminio ES Universal para aluminio
✓	✓	✓	○	✓	✓	✓	✓	✓	✓	EN MDF, chipboard, laminate, CFRP DE MDF, Spanplatte, Laminat, CFK FR MDF, panneaux, stratifié, CFRP IT MDF, truciolato, laminato, CFRP ES MDF, aglomerado, laminado, CFRP
✓	✓	○	☐	○	✓	✓	✓	✓	✓	EN For high Si%-Al DE Für hohen Si%-Al FR Pour une grande Si%-Al IT Per alta Si%-Al ES Para alta Si%-Al
✓	✓	○	☐	○	✓	✓	✓	✓	✓	EN Limestone, concrete, high impact DE Kalkstein, Beton, äußerst schlagzäh FR Calcaire, béton, à fort impact IT Calcare, calcestruzzo, ad alto impatto ES Caliza, hormigón, alto impacto

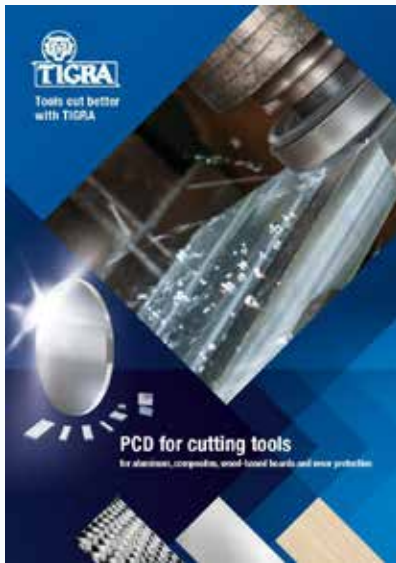
IT Per i dati tecnici, fare riferimento alla pagina 7.  
ES Para los datos técnicos, consulte la página 7.

 best performance  
 very good performance  
 acceptable  
 not suitable





- EN PCD - Further information  
DE PKD - Weitere Informationen  
FR PCD - Plus d'informations  
IT PCD - Ulteriori informazioni  
ES PCD - Más información



- EN For detailed technical information, please download from our homepage [www.tigra.de](http://www.tigra.de) or ask for a printed copy of our technical guidebook "PCD for cutting tools".
- DE Detaillierte technische Informationen finden Sie auf unserer Homepage [www.tigra.de](http://www.tigra.de) zum download oder fordern Sie ein gedrucktes Exemplar unseres technischen Ratgebers "PKD für Schneidwerkzeuge" an.
- FR Pour des informations techniques détaillées, s'il vous plaît télécharger à partir de notre page d'accueil [www.tigra.de](http://www.tigra.de) ou demander une copie imprimée de notre guide technique "PCD pour les outils de coupe".
- IT Potete scaricare le informazioni tecniche dettagliate dal nostro sito [www.tigra.de](http://www.tigra.de) oppure richiedere una copia stampata della nostra guida tecnica "PCD per utensili da taglio".
- ES Para obtener información técnica detallada, por favor descargue de nuestra página principal [www.tigra.de](http://www.tigra.de) o solicite una copia impresa de nuestro guía técnica "PCD para herramientas de corte".



- EN Standard PCD blanks  
 DE Standard-PKD-Ronden  
 FR Rondelles PCD standards  
 IT Dischi standard in PCD  
 ES Rodajas PCD estándar

EN Grade DE Sorte FR Nuance IT Tipo ES Calidad	Properties and dimensions (mm)					Ø 62 mm Art.No.
	Grain size µm		Binder	T mm	t mm	
FX	Fine	2-4	Special	1.6	0.5	141046
				2.0	0.5	141047
				3.2	0.5	141048
MS	Medium	8-10	Standard	1.6	0.5	139351
				2.0	0.5	139352
				3.2	0.5	141049
MS-W	Medium	8-10	Standard	1.6	0.5	142725
				2.0	0.5	142727
MX+	Medium	8-10	Special	1.6	0.5	141050
				2.0	0.5	141051
				3.2	0.5	141052
MU+	Mixed	2-4 + 8-10	Ultrahard	1.6	0.5	139353
				2.0	0.5	139354
				3.2	0.5	141053
CX	Coarse	20-35	Special	1.6	0.5	141057
				2.0	0.5	141058
				3.2	0.5	141059
CU	Mixed	2-4 + 20-35	Ultrahard	1.6	0.5	141061
				2.0	0.5	141062
				3.2	0.5	141063

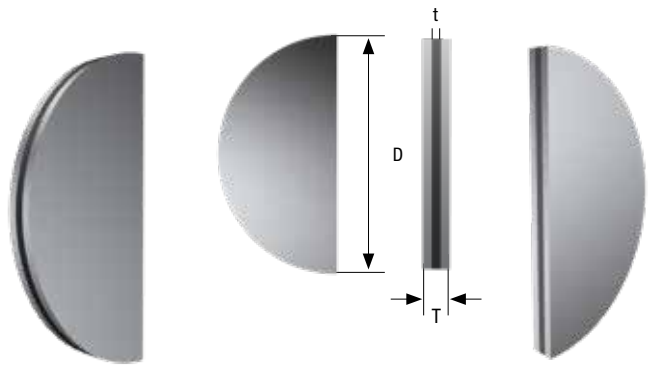




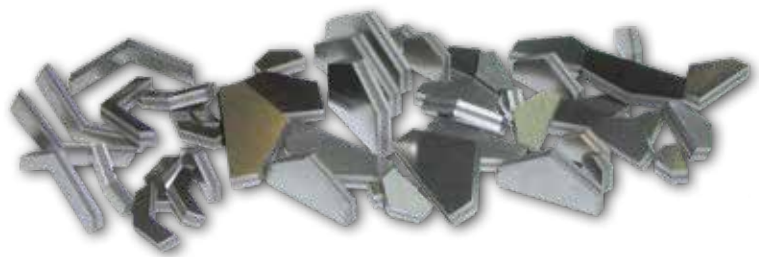
- EN Special PCD blanks  
 DE Spezial-PKD-Ronden  
 FR Rondelles PCD spéciales  
 IT Dischi speciali in PCD  
 ES Rodajas PCD especiales

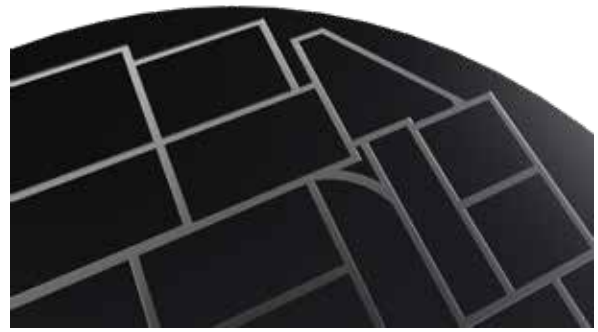
EN Grade DE Sorte FR Nuance IT Tipo ES Calidad	Properties and dimensions					Ø 62 mm Art.No.
	Grain size µm		Binder	T mm	t mm	
FX	Fine	2-4	Special	1.0	0.3	141116
MS	Medium	8-10	Standard	1.0	0.3	141117
				1.2	0.3	141118
				1.6	0.3	141119
MX+	Medium	8-10	Special	1.0	0.3	141120
MU+	Mixed	2-4 + 8-10	Ultrahard	1.0	0.3	141121
CX	Coarse	20-35	Special	1.0	0.3	141125
CU	Mixed	2-4 + 20-35	Ultrahard	1.0	0.3	141126

- EN Sandwich PCD - Half blanks  
 DE Sandwich PKD - Halbronden  
 FR Demies rondelles PCD sandwich  
 IT Mezzidisci sandwich in PCD  
 ES Semi-rodajas PCD en sandwich


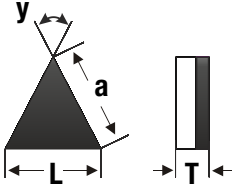
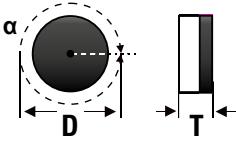
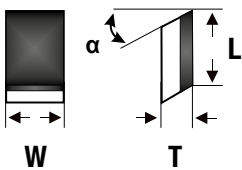


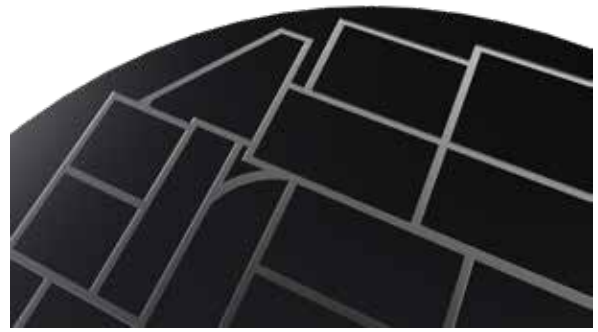
EN Grade DE Sorte FR Nuance IT Tipo ES Calidad	Properties and dimensions (mm)					Ø 62 mm Art.No.
	Grain size µm		Binder	T mm	t mm	
MS	Medium	8-10	Standard	1.5	0.5	141066
				2.0	0.8	141067
				2.5	1.0	141128





- EN Standard PCD segments  
 DE Standard PKD-Segmente  
 FR Segments PCD standards  
 IT Settori standard in PCD  
 ES Segmentos PCD estándar

EN Rectangle DE Rechteck FR Rectangle IT Rettangolo ES Rectángulo	
	<p style="text-align: right;"><b>RE L x W / T - Grade</b></p> <p><b>Example</b>      <b>RE 5.5 x 3.0 / 1.6 - MX</b></p>
EN Triangle DE Dreieck FR Triangle IT Triangolo ES Triángulo	
	<p style="text-align: right;"><b><math>\gamma</math> T a / T - Grade</b></p> <p><b>Example</b>      <b>60 T 5.0 / 1.6 - MX</b></p>
EN Round DE Rund FR Rond IT Rotondo ES Ronda	
	<p style="text-align: right;"><b><math>\alpha</math> R D / T - Grade</b></p> <p><b>Example full circle</b>      <b>360 R 20.0 / 1.6 - MX</b></p> <p><b>Example half circle</b>      <b>180 R 22.4 / 1.6 - MX</b></p>
EN With angle DE Mit Winkel FR Avec angle IT Con angolo ES Con ángulo	
	<p style="text-align: right;"><b>RE L x W / <math>\alpha</math> / T - Grade</b></p> <p><b>Example</b>      <b>RE 4 x 3 / 24° / 1.6 - MX</b></p>



- EN Cutting service
- DE Schneiddienst
- FR Service de coupe
- IT Servizio di taglio
- ES Servicio de corte

**EN** TIGRA offers you a quick service for laser-cut PCD: according to your drawing, we cut within 3-5 working days, with and without angle. The segments are delivered cleaned and packaged safely. Thanks to the efficient production planning and processing, our laser-cut segments are in many cases significantly less expensive than whatever is possible by wire cutting!

**DE** TIGRA bietet Ihnen einen Schnellservice für Laser geschnittenes PKD: nach Ihrer Zeichnung trennen wir innerhalb von 3-5 Arbeitstagen, mit und ohne Winkel. Die Segmente werden gereinigt und sicher verpackt ausgeliefert. Dank der effizienten Arbeitsvorbereitung und Bearbeitung sind unsere Laser geschnittenen Segmente in vielen Fällen deutlich günstiger als dies mit Drahtschneiden möglich ist!

**FR** TIGRA vous offre un service express pour PCD découpé au laser. Nous découpons avec ou sans angle et suivant votre dessin dans un délai de 3-5 jours ouvrables. Les segments sont nettoyés et livrés solidement emballés. Nos segments découpés au laser sont dans de nombreux cas nettement plus avantageux que par découpe par fil grâce à la préparation du travail et à l'usinage efficaces!

**IT** TIGRA vi offre un servizio rapido per PCD tagliato a laser: in base ai vostri disegni, eseguiamo i tagli entro 3-5 giorni lavorativi, con e senza angoli. I settori vengono puliti e spediti in imballi sicuri. Grazie all'efficienza di preparazione e lavorazione, i nostri settori tagliati a laser sono spesso più economici di quelli ottenuti con una macchina ad elettroerosione!

**ES** TIGRA ofrece un servicio rápido de corte por láser para calidades PCD: en un plazo de 3-5 días realizamos trabajos a medida, con o sin ángulo, conforme a su diseño. Los segmentos se entregan en embalaje seguro y limpios. Gracias a una eficiente preparación del trabajo y un óptimo mecanizado nuestros segmentos cortados por láser son en muchos casos sustancialmente más económicos que los de corte por hilo.



- EN Warning  
 DE Warnung  
 FR Mise en garde  
 IT Avvertenza  
 ES Advertencia

**EN** This catalogue describes cemented carbide products. Grinding of these products will produce dust of potentially hazardous ingredients. Dust from grinding the products described in this catalogue can cause nose, throat, skin and eye irritation and temporary or permanent respiratory disease in a small percentage of exposed individuals. Permanent respiratory disease can lead to disability or death. Coolant mist from wet grinding may contain dust. Avoid prolonged skin contact with dust or mist. Use adequate ventilation when grinding. Maintain dust levels below OSHA and ACGIH levels. Use protective devices. Wash hand thoroughly after handling, before eating or smoking. Dispose of materials according to local, state and/or federal regulations.

**DE** Der Schleifstaub der in diesem Katalog beschriebenen Hartmetallprodukte enthält möglicherweise gesundheitsschädliche Bestandteile. Er kann Nasen-, Atmungs-, Haut- und Augenreizungen auslösen. Dauerhaftes Einatmen kann zu ernsthaften gesundheitlichen Schäden führen. Beim Schleifen mit Kühlung entsteht ein Schlamm, der diesen Staub ebenfalls enthält. Vermeiden Sie das Einatmen von Schleifstaub und Schleifschlamm sowie längeren Hautkontakt. Sorgen Sie für ausreichende Absaugung. Benutzen Sie Schutzvorrichtungen. Waschen Sie sich nach der Berührung sorgfältig die Hände, insbesondere vor dem Essen. Die Entsorgung von Rückständen muss nach den entsprechenden gesetzlichen Vorschriften erfolgen.

**FR** La poussière de meulage des produits en carbure décrits dans ce catalogue risque de contenir des éléments dangereux pour la santé. Elle peut provoquer des irritations du nez, des voies respiratoires, de la peau et des yeux. Une inhalation prolongée peut provoquer de graves problèmes de santé. Pendant le meulage avec refroidissement, il se forme du cambouis qui contient également cette poussière. Evitez d'inhaler la poussière et le cambouis de meulage, ainsi que tout contact prolongé avec la peau. Veillez à ce que leur aspiration soit suffisante. Utilisez des dispositifs de protection. Après tout contact, lavez-vous soigneusement les mains, surtout avant les repas. La mise au rebut des résidus doit se faire conformément aux prescriptions légales en vigueur.

**IT** Il pulviscolo di rettifica del prodotto in metallo duro descritto nel presente catalogo può contenere componenti dannosi per la salute. Può causare irritazione a naso, vie respiratorie, pelle e occhi. L'esposizione prolungata a queste sostanze e la conseguente inalazione possono causare seri danni alla salute. Anche in caso di profilatura a freddo si produce un residuo fangoso che contiene questo pulviscolo. Evitare l'inalazione e il contatto prolungato con la pelle del pulviscolo di rettifica e dei residui. Eseguire un'accurata pulizia e adottare idonee misure di protezione. Lavare accuratamente le mani dopo ogni contatto, soprattutto prima dei pasti. Smaltire i residui in conformità alle normative vigenti in materia.

**ES** En este catálogo se describen productos de metal duro que, durante el lijado, producen un polvo que contiene sustancias nocivas para la salud. Estas sustancias pueden provocar irritación en los ojos, la piel o la nariz y causar problemas respiratorios. Una exposición continuada puede conducir a lesiones físicas graves. Durante el lijado con refrigeración, se produce una pasta que también contiene este polvo. Evite respirar el polvo y la pasta de lijado, así como el contacto prolongado con la piel. Asegúrese de utilizar un sistema de aspiración adecuado. Utilice dispositivos de seguridad. Láve las manos minuciosamente después del contacto, en particular antes de comer. Observe las prescripciones legales correspondientes para la gestión de residuos.

- EN Terms and conditions
- DE Allgemeine Geschäftsbedingungen
- FR Conditions générales de vente
- IT Condizioni generali di vendita
- ES Condiciones comerciales generales

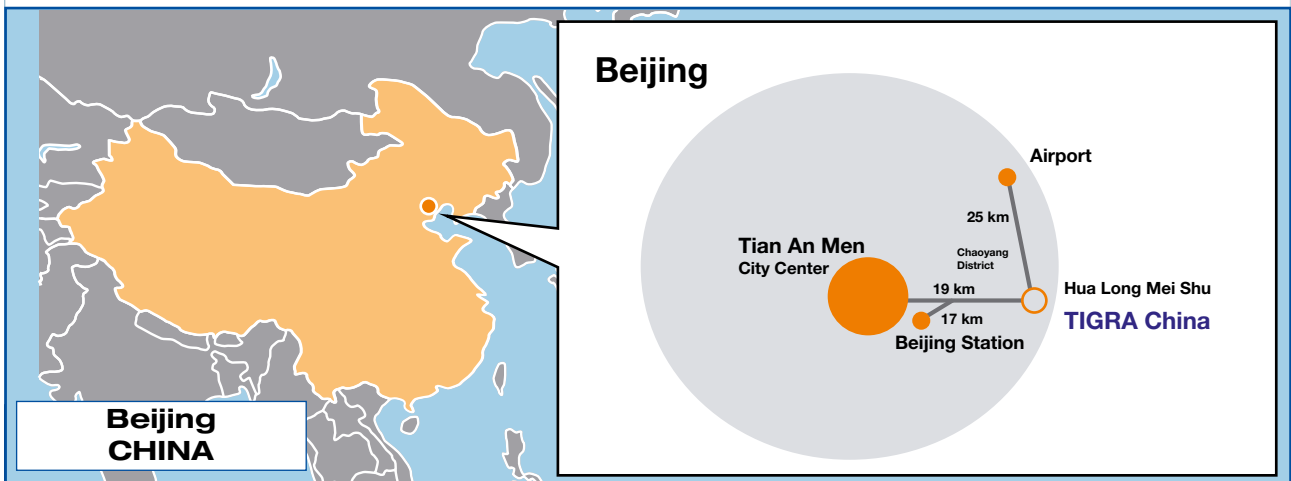
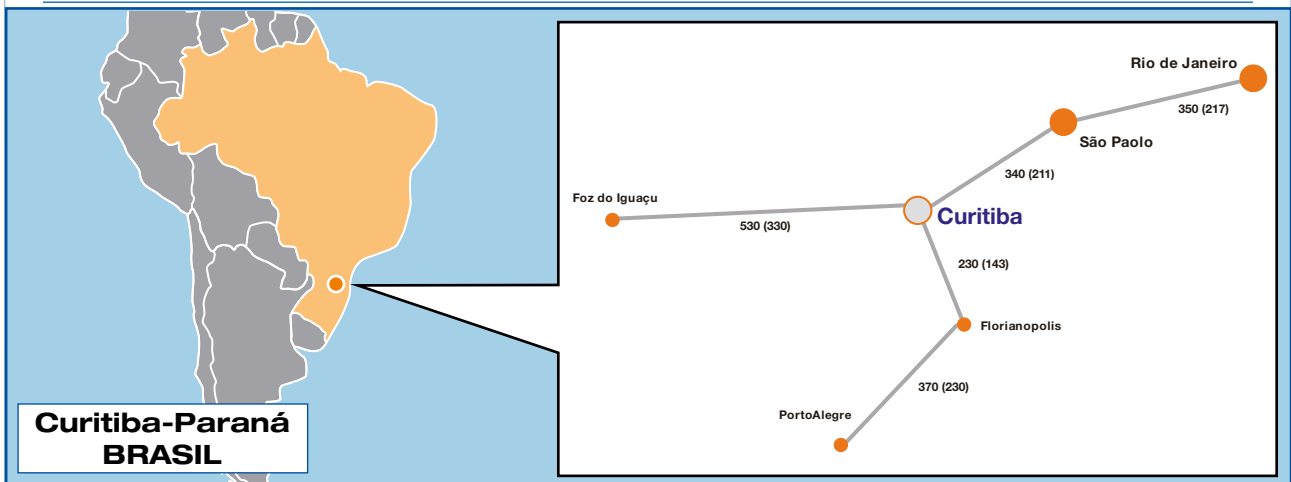
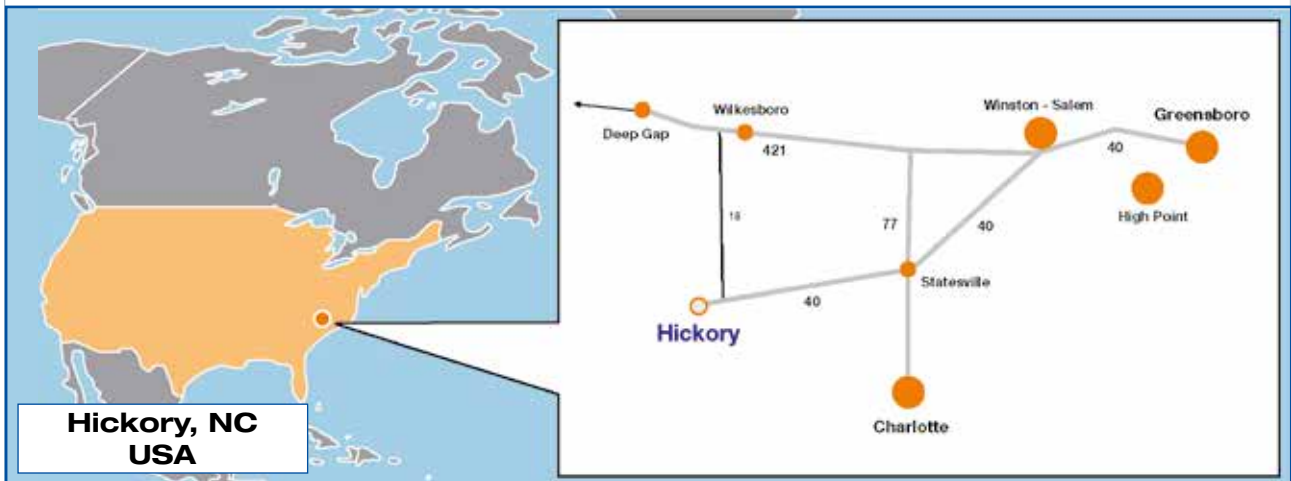
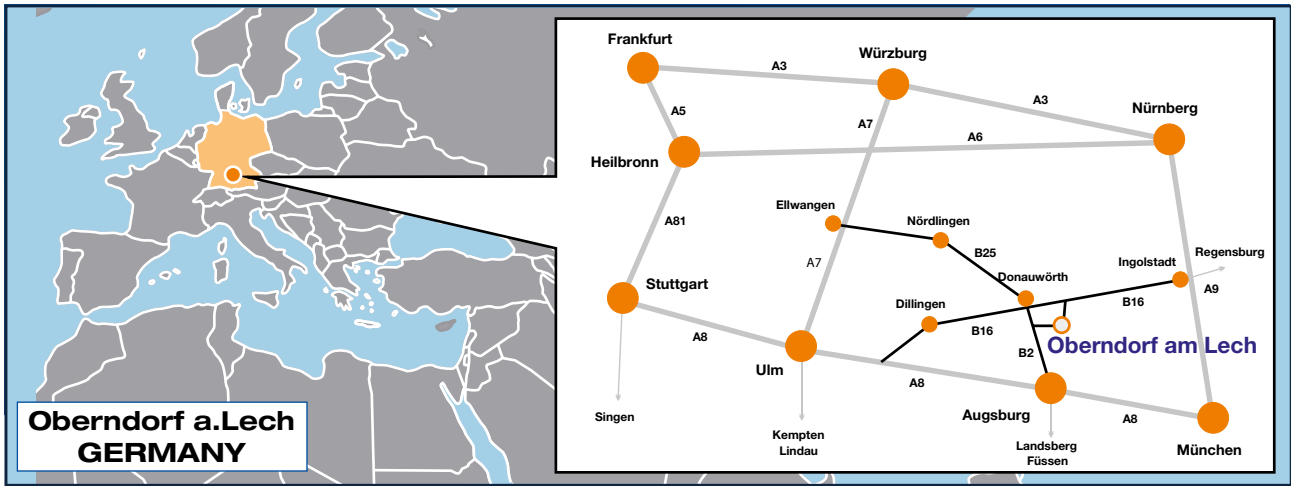
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- FR Information de sécurité pour nos clients
- IT Informazioni di sicurezza per i nostri clienti
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