



hart|**metall**^{ag}
s w i s s m a d e

- rund-/rechteck- und quadratstäbe
- **round rods/rectangular bars and squares**
- cylindres/barreaux rectangulaires et carrés
- cilindretti/barette piatte e quadre

innovation for **your success**

carduro•radiamant



WE DEVELOP TUNGSTEN CARBIDE, NOTHING ELSE.

Our work focuses on the demands of our customers. We are not only your supplier, but also your partner in all areas where quality is the solution. Our comprehensive range ideally covers all areas and application. Our principle: «the best tungsten carbide for every operation». This is how we can guarantee the best result.

WE SPEAK YOUR LANGUAGE. BECAUSE WE KNOW YOUR AIMS.

The realization that successful selling can only be done via customer-related advice is, for us, as old as our company itself. Aggressive selling is not our style. Instead, we set great store by the expert knowledge of our sales advisors, continuously and consistently furthering it via in-house training. Not dry-as-dust theory but using practical examples. So our advice is always practice-related on the basis of many years' experience. And we incorporate our customers' expert into our own.

We have only done our job properly if not only our customer but also the customers of our customers are satisfied. This is our leitmotif.

By the way, we speak your language not only in terms of providing partner-like advice. We also communicate in your mother tongue. And in all your dealings with us you will always have the same contact person.

QUALITY «MADE IN SWITZERLAND» BUT WITHOUT LIMITS.

As a medium size manufacturer of tungsten carbide products we have become a leader in the industry. The reason for this success being innovation, technique and technology, we have always focused on people. Our growth is orientated internationally which is why we are already present on the most important markets for our high quality products.

QUALITY & ENVIRONMENT

Quality management and environment: more than just catchwords. With quality management to ISO EN 9001 and environment management to ISO EN 14001 standard as the crucial management tools, we have motivated the management and employees to consistently live the quality concept all its actions and activities. Increasing demands in today's manufacturing technology, in tool making and machine engineering as well as in the metal and wood processing industries demand is constantly driving progress in quality and productivity and thus consistently greater profitability. We are committed to this motto. No less important: in all our thinking our production processes we always consistently include the needs of the environment. A responsible approach to the environment and natural resources is an essential part of our self-understanding and makes an important contribution to our business success. The management and all staff agree to the common active implementation of the company policy in compliance with laws and regulations, in particular the occupational safety and environment protection rules.

PRODUCTS

There is precision in everything we do. And no room for error.

The manufacture of precision «Pre Forms» is our speciality, with over 60 years of experience in this complex and challenging process our capabilities are appreciated by many satisfied customers with whom we have long and well established relationships. Our continued investment in the most modern and often purpose built machinery operated by a well established team of highly trained staff give us a high degree of flexibility and almost limitless.



Unsere Hartmetallsorten Our carbide grades Nos nuances carbure Nostre qualità di metallo duro	7
Hartmetall-Rundstäbe roh gesintert L = 330 mm Tungsten carbide rods as sintered L = 330 mm Cylindres en métal dur bruts de frittage L = 330 mm Cilindretti in metallo duro grezzi di sinterizzazione L 330 mm	8
Hartmetall-Rundstäbe geschliffen h6 L = 330 mm Tungsten carbide rods finish ground h6 L = 330 mm Cylindres en métal dur rectifiés h6 L = 330 mm Cilindretti in metallo duro rettificati h6 L = 330 mm	9
Hartmetall-Rundstäbe in Fixlängen (ISO) geschliffen h6 mit einseitiger Fase Tungsten carbide rods in fix lengths (ISO) finish ground h6 with chanfer on one side Cylindres en métal dur en longueurs fixes (ISO) rectifiés h6 avec und côté chanfreinée Cilindretti in metallo duro in lunghezze fisse (ISO) rettificati h6 con smusso da un lato	10
Hartmetall-Rundstäbe geschliffen h6 L = 100 mm Tungsten carbide rods finish ground h6 L = 100 mm Cylindres en métal dur rectifiés h6 L = 100 mm Cilindretti in metallo duro rettificati h6 L = 100 mm	11
Hartmetall-Rundstäbe mit 1 geraden Kühlmittelbohrung roh gesintert L = 330 mm Tungsten carbide rods with 1 straight coolant hole as sintered L = 330 mm Cylindres en métal dur avec 1 alésage centrale pour lubrifiant bruts de frittage L = 330 mm Cilindretti in metallo duro con 1 foro centrale per il liquido refrigerante grezzi di sinterizzazione L = 330 mm	12
Hartmetall-Rundstäbe mit 2 parallelen Kühlmittelbohrungen roh gesintert L = 330 mm Tungsten carbide rods with 2 straight coolant holes as sintered L = 330 mm Cylindres en métal dur avec 2 trous parallèles pour lubrifiant bruts de frittage L = 330 mm Cilindretti in metallo duro con 2 fori paralleli per il liquido refrigerante grezzi di sinterizzazione L = 330 mm	13-14
Hartmetall-Rundstäbe mit 2 verdrahten 30° Kühlbohrungen roh gesintert L = 330 mm Tungsten carbide rods with 2 spiral coolant holes 30° as sintered L = 330 mm Cylindres en métal dur avec 2 trous à hélice 30° bruts de frittage L = 330 mm Cilindretti in metallo duro con 2 fori ad elica 30° grezzi di sinterizzazione L = 330	15
Hartmetall-Rundstäbe mit 2 verdrahten 30° Kühlbohrungen geschliffen L = 330 mm Tungsten carbide rods with 2 spiral coolant holes 30° finish ground L = 330 mm Cylindres en métal dur avec 2 trous à hélice 30° réctifés h6 L = 330 mm Cilindretti in metallo duro con 2 fori ad elica 30° rettificati h6 L = 330	16
Hartmetall-Rechteck- und Quadratstäbe roh gesintert L = 330 mm Tungsten carbide flats and squares as sintered L = 330 mm Barreaux rectangulaires et carrés en métal dur bruts de frittage L = 330 mm Barrette piatte e quadre in metallo duro grezzi di sinterizzazione L = 330 mm	17-18

Grade description – Composition

RX3-NG	Submicron-grain grade with an extreme good wear resistance and a very high hardness. Especially suitable for machining of fibre glass reinforced materials, graphite, aluminium alloys and plastics.
RX6-NG	Submicron-grain grade with a very good wear resistance for metal cutting operation of Non-ferrous-alloys, aluminium alloys, reinforced materials, hardened steels of low and middle hardness.
RX7-NG	Submicron-grain grade with a good wear resistance for cast iron, malleable cast iron, unalloyed steels, Ti- and Ta-alloys, non-ferrous metals and plastics.
RX10-NG	Submicron-grain grade for general use for metal cutting machining of stainless, acid- and heat-resistant steels, Cr-Ni-Co alloyed steels, Ti-alloys, non-ferrous metals, plastics.
RX8UF-NG	Ultrafine-grain grade for the HSC-machining of hard and super-hard materials > 60HRC. Especially suitable for thin rotary tools.
RX12UF-NG	Ultrafine-grain grade for the HSC-machining of materials up to 59HRC as for example high alloy, austenitic, stainless and heat-resistance steels. The grade is characterized by a very high toughness and a relatively high hardness.
RCN	Submicron-grain grade with very high corrosion resistance to acidic media. Especially suitable in the medical industry.

Sorte Grade	Bisherige Sorte Former Grade	ISO K	Zusammensetzung Composition		Dichte Density	Härte Hardness	HR _A ¹⁾	Biegebruch- festigkeit ²⁾ Transverse Rupture	PSI
			WC +MC ³⁾ %	Binder %	ISO3369 g/cm ³	ISO3878 HV 30		ISO 3327 S-HIP N/mm ²	

Korngrösse Ultrafein – Grain size ultrafine

RX8UF-NG	RX8UF	K10 – K20	92	8	14.6	1900	93.5	4300	624000
RX12UF-NG	RX12UF	K10 – K20	88	12	14.1	1680	92.4	4600	667000

Korngrösse Feinst – Grain size submicron

RX3-NG	RX3	K01	96.7	3.3	15.2	2000	94.0	3000	435000
RX6-NG	RX6	K05 – K10	94	6	14.9	1820	93.1	3500	508000
RX7-NG	RX7	K10 – K30	92.5	7.5	14.7	1720	92.6	3600	522000
RX10-NG	RX10	K20 – K40	90	10	14.5	1600	91.9	3800	551000

Korrosionsbeständige Ni - Sorten – Corrosion resistant Ni - grades

RCN	RCN	-	92	8	14.6	1550	91.6	2100	305000
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Classification of WC – grain size

Grain size	Description DE	Description E
< 0.2 µm	Nano	nano
0.2 – 0.5 µm	Ultrafein	ultrafine
0.5 – 0.8 µm	Feinst	submicron
0.8 – 1.3 µm	Fein	fine
1.3 – 2.5 µm	Mittel	medium
2.5 – 6.0 µm	Grob	coarse
> 6.0 µm	Extragrob	extra coarse

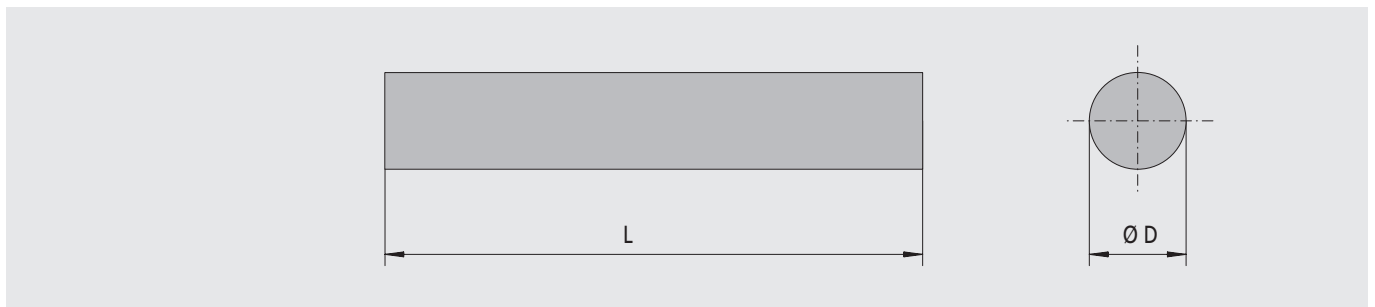
¹⁾ Werte empirisch ermittelt

– Empirically determined values

²⁾ ISO 3327 Ø 3.25 mm

³⁾ Mischkarbide – Mixed carbide

Hartmetall-Rundstäbe, roh gesintert, L=330 mm
Tungsten carbide rods, as sintered, L=330 mm
Cylindres en métal dur, bruts de frittage, L=330 mm
Cilindretti in metallo duro, grezzi di sinterizzazione, L=330 mm



Technische Daten:
Technical specification:
Spécification technique:
Descrizione tecnica:

Tol. D
1.8 – 10.3 0/+0.3 mm
10.3 – 20.3 0/+0.4 mm
20.3 – 32.3 0/+0.5 mm

Tol. L
Alle 0/+3.0 mm

Letzte 2 Zahlen = Sorte
Last 2 numbers = grade
2 derniers chiffres = nuance
2 ultime cifre = qualità

RX7-NG ... 72
RX8UF-NG ... 83
RX10-NG ... 80
RX12UF-NG ... 82

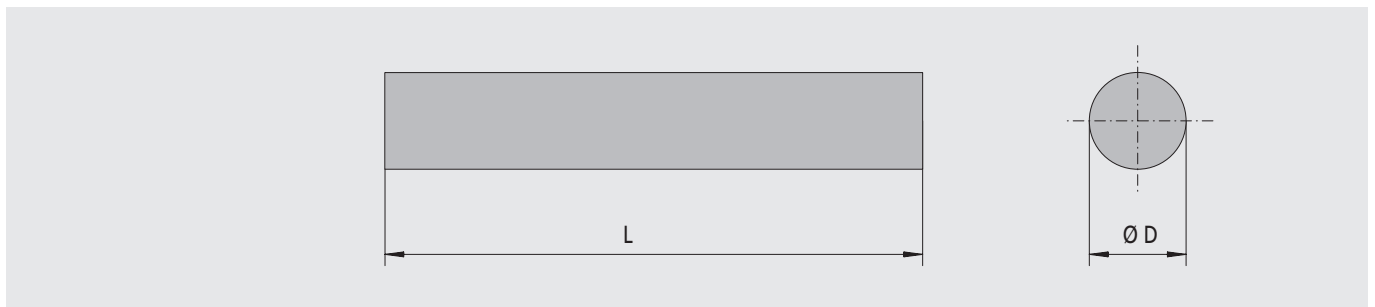
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• = ab Lager oder kurzfristig
lieferbar
on stock or available in
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bref délai
fornibile da magazzino
o a breve scadenza

Technische Änderungen
vorbehalten
Technical modifications
reserved
Modifications techniques
sous réserve
Modifiche tecniche soggetti
a possibili cambiamenti

Abmessung Dimension Dimensions Dimensioni		Artikel-Nr. Article-No. Article-No. Nr. Articolo	Sorte Grade Nuance Qualità			
D mm	L mm		RX7-NG	RX8UF-NG	RX10-NG	RX12UF-NG
1.8	330	080018...	•	•	•	•
2.3	330	080023...	•		•	
2.8	330	080028...	•		•	
3.3	330	080033...	•	•	•	•
3.8	330	080038...	•		•	
4.3	330	080043...	•	•	•	•
4.8	330	080048...	•		•	
5.3	330	080053...	•	•	•	•
5.8	330	080058...	•		•	
6.3	330	080063...	•	•	•	•
6.8	330	080068...	•		•	
7.3	330	080073...			•	
7.8	330	080078...			•	
8.3	330	080083...	•	•	•	•
8.8	330	080088...			•	
9.3	330	080093...	•		•	
9.8	330	080098...			•	
10.3	330	080103...	•	•	•	•
10.8	330	080108...			•	
11.3	330	080113...			•	
11.8	330	080118...			•	
12.3	330	080123...	•	•	•	•
13.3	330	080133...	•		•	
14.3	330	080143...	•	•	•	•
15.3	330	080153...			•	
16.3	330	080163...	•	•	•	•
17.3	330	080173...			•	
18.3	330	080183...	•	•	•	•
20.3	330	080203...	•	•	•	•
21.3	330	080213...			•	
22.3	330	080223...			•	
23.3	330	080233...			•	
24.3	330	080243...			•	
25.3	330	080253...		•	•	•
26.3	330	080263...			•	
28.3	330	080283...			•	
30.3	330	080303...			•	
32.3	330	080323...			•	

Hartmetall-Rundstäbe, geschliffen h6, L=330 mm
Tungsten carbide rods, finish ground h6, L=330 mm
Cylindres en métal dur, rectifiés h6, L=330 mm
Cilindretti in metallo duro, rettificati h6, L=330 mm



Technische Daten:
Technical specification:
Spécification technique:
Descrizione tecnica:

Tol. D
1.5 – 32.0 h6

Tol. L
Alle 0/+3.0 mm

Letzte 2 Zahlen = Sorte
Last 2 numbers = grade
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RX7-NG ... 72
RX8UF-NG ... 83
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D mm	L mm		RX7-NG	RX8UF-NG	RX10-NG	RX12UF-NG
1.5	330	140015...	•	•	•	•
2.0	330	140020...	•		•	
2.5	330	140025...	•		•	
3.0	330	140030...	•	•	•	•
3.5	330	140035...	•		•	
4.0	330	140040...	•	•	•	•
4.5	330	140045...	•		•	
5.0	330	140050...	•	•	•	•
5.5	330	140055...	•		•	
6.0	330	140060...	•	•	•	•
6.5	330	140065...	•		•	
7.0	330	140070...			•	
7.5	330	140075...			•	
8.0	330	140080...	•	•	•	•
8.5	330	140085...			•	
9.0	330	140090...	•		•	
9.5	330	140095...			•	
10.0	330	140100...	•	•	•	•
10.5	330	140105...			•	
11.0	330	140110...			•	
11.5	330	140115...			•	
12.0	330	140120...	•	•	•	•
13.0	330	140130...	•		•	
14.0	330	140140...	•	•	•	•
15.0	330	140150...			•	
16.0	330	140160...	•	•	•	•
17.0	330	140170...			•	
18.0	330	140180...	•	•	•	•
20.0	330	140200...	•	•	•	•
21.0	330	140210...			•	
22.0	330	140220...			•	
23.0	330	140230...			•	
24.0	330	140240...		•	•	•
25.0	330	140250...			•	
26.0	330	140260...			•	
28.0	330	140280...			•	
30.0	330	140300...			•	
32.0	330	140320...			•	

Hartmetall-Rechteck- und Quadratstäbe roh gesintert L = 330 mm
Tungsten carbide flats and squares as sintered L = 330 mm
Barreaux rectangulaires et carrés en métal dur bruts de frittage L = 330 mm
Barrette piate e quadre in metallo duro grezzi di sinterizzazione L = 330 mm



Technische Daten:
Technical specification:
Spécification technique:
Descrizione tecnica:

Sintertoleranzen
Sintering tolerances
Tolérances de frittage
Tolleranze di sinterizzazione:
S = 0/+0.2 mm
B = 0/+0.2 mm
L = 0/+4.0 mm

Letzte 2 Zahlen = Sorte
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RX10-NG ... 80

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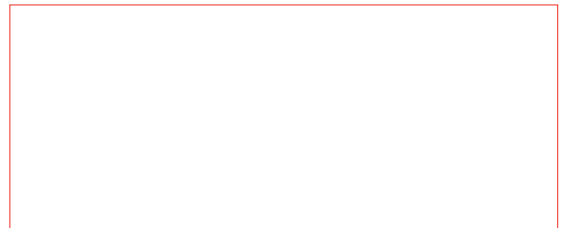
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Abmessung Dimension Dimensions Dimensioni			Artikel-Nr. Article-No. Article-No. Nr. Articolo	Sorte Grade Nuance Qualità
S	B	L		RX7-NG RX10-NG
1.3	3.3	330	2013033330...	•
1.3	4.3	330	2013043330...	•
1.8	2.3	330	2018023330...	•
1.8	3.3	330	2018033330...	•
1.8	4.3	330	2018043330...	•
1.8	5.3	330	2018053330...	•
1.8	6.3	330	2018063330...	•
1.8	8.3	330	2018083330...	•
1.8	10.3	330	2018103330...	•
2.3	2.3	330	21023023330...	•
2.3	3.3	330	2023033330...	•
2.3	4.3	330	2023043330...	•
2.3	5.3	330	2023053330...	•
2.3	6.3	330	2023063330...	•
2.3	8.3	330	2023083330...	•
2.3	10.3	330	2023103330...	•
2.3	12.4	330	2023124330...	•
2.3	15.4	330	2023154330...	•
2.3	16.4	330	2023164330...	•
2.3	18.4	330	2023184330...	•
2.3	20.4	330	2023204330...	•
2.3	25.4	330	2023254330...	•
2.8	4.3	330	2028043330...	•
2.8	6.3	330	2028063330...	•
2.8	8.3	330	2028083330...	•
2.8	10.3	330	2028103330...	•
2.8	12.4	330	2028124330...	•
2.8	15.4	330	2028154330...	•
3.3	3.3	330	21033033330...	•
3.3	4.3	330	2033043330...	•
3.3	5.3	330	2033053330...	•
3.3	6.3	330	2033063330...	•
3.3	8.3	330	2033083330...	•
3.3	10.3	330	2033103330...	•
3.3	12.4	330	2033124330...	•
3.3	13.4	330	2033134330...	•
3.3	14.4	330	2033144330...	•
3.3	16.4	330	2033164330...	•
3.3	18.4	330	2033184330...	•



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