



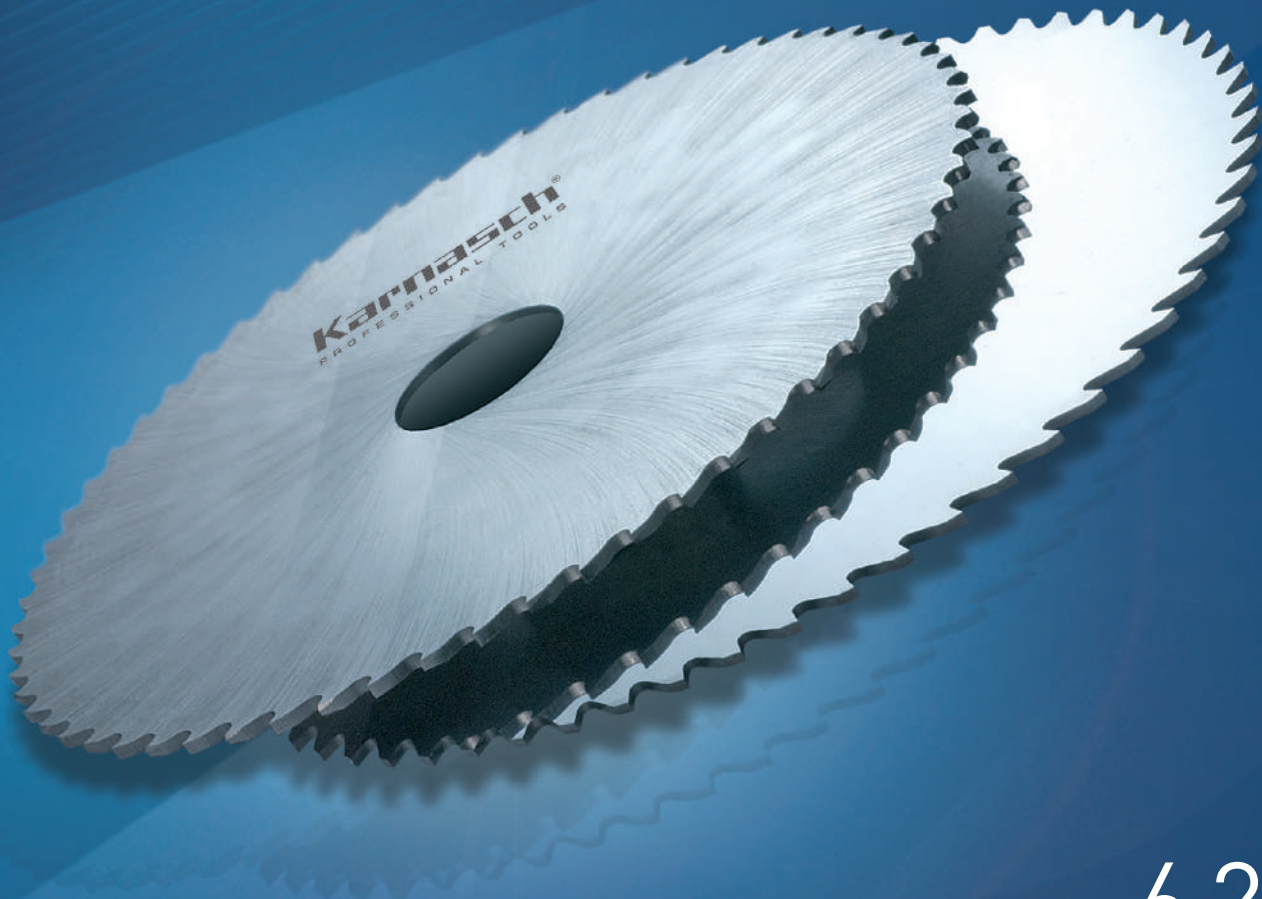
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Karnasch[®]
PROFESSIONAL TOOLS

METALLKREISSÄGEBLÄTTER · HSS-DM05 · HSS-Co5 · HSS-DIN · VOLLHARTMETALL

METAL CIRCULAR SAW BLADES · HSS-DM05 · HSS-Co5 · HSS-DIN · SOLID CARBIDE



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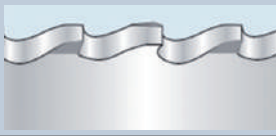
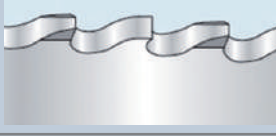

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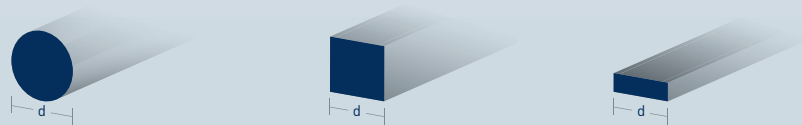
10



Zahnformen Tooth shapes

BW	Zum Sägen von Profilen und Röhren. For cutting profile and pipes.	
HZ	Zum Sägen von Vollmaterial und Rohre, Profile mit dickeren Wandstärken > 3 mm For cutting solid material and thicker profiles, pipes > 3 mm	
BR	Spezialverzahnung zum Sägen von Profilen und Röhren. Im Vergleich zur Zahnform BW hat diese die doppelte Anzahl von Zahnflanken im Eingriff. Daraus resultiert weitaus höhere Standzeit und saubere Schnittflächen. Preis und Lieferung auf Anfrage. Special geometry for cutting pipes and profiles. In comparison to tooth shape BW has this BR shape double the number of cutting edges. This results to a much higher number of cuts and smooth surface finish. Price and time of delivery on request.	

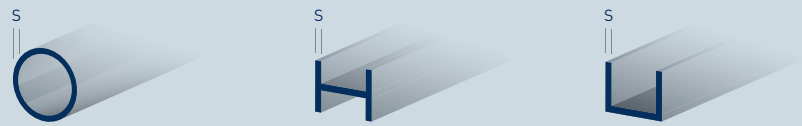
Empfohlene Zähnezahl zum Sägen von Vollmaterial Recommended number of teeth for cutting solid material



Querschnitt Crosscut d mm	Zahnteilung Pitch	Zahnform Tooth shape	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm
			175	200	250	275	300	315	350	370	400	425	450	500	560
			*40 mm	*45 mm	*60 mm	*65 mm	*70 mm	*75 mm	*80 mm	*86 mm	*96 mm	*106 mm	*112 mm	*128 mm	*145 mm
10 mm	5	HZ	110	130	160	180	180	200	220	220	250	260	280	310	350
20 mm	6	HZ	90	100	128	140	160	160	180	190	200	220	230	260	300
30 mm	8	HZ	70	80	100	110	120	120	140	140	160	160	180	200	220
50 mm	8	HZ			100	90	120	120	140	140	160	160	180	200	220
70 mm	10	HZ					94	100	110	110	120	130	140	160	180
90 mm	12	HZ					80	80	90	90	110	110	120	130	150
110 mm	14	HZ								80	80	80	90	100	120
130 mm	14	HZ									80	80	90	100	120
150 mm	16	HZ											80	90	100
160 mm	16	HZ												90	100
180 mm	18	HZ												80	90

* Maximaler Schnittbereich · Maximum cutting capacity

Empfohlene Zähnezahl zum Sägen von Röhren und Profilen Recommended number of teeth for cutting pipes and profiles



Wandstärke Wall thickness S mm	Zahnteilung Pitch	Zahnform Tooth shape	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm
			175	200	250	275	300	315	350	370	400	425	450	500	560
			*40 mm	*45 mm	*60 mm	*65 mm	*70 mm	*75 mm	*80 mm	*86 mm	*96 mm	*106 mm	*112 mm	*128 mm	*145 mm
0,5 mm	3	BW	180	200	250	280	300	320	350	380					
1,0 mm	4	BW, BR	140	160	200	220	220	240	280	290	310	320	350	390	
2,0 mm	4,5	BW, BR	120	140	180	200	210	230	250	260	280	290	310	350	390
3,0 mm	5	BW, BR	110	130	160	180	180	200	220	230	250	260	280	310	350
4,0 mm	6	HZ, BR	90	100	130	140	160	170	180	200	200	220	230	260	290
5,0 mm	8	HZ, BR		80	100	110	120	130	140	150	160	170	180	200	220
6,0 mm	9	HZ, BR			90	100	110	120	130	130	140	150	160	180	200
7,0 mm	10	HZ, BR						100	110	120	120	130	140	160	180
8,0 mm	11	HZ, BR											130	140	160
9,0 mm	12	HZ, BR												130	150
10,0 mm	13	HZ												120	130

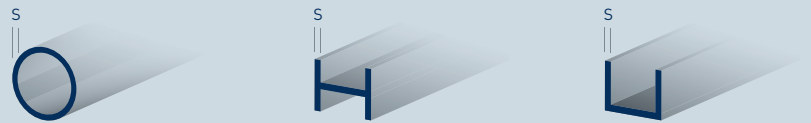
* Maximaler Schnittbereich · Maximum cutting capacity

Schnittparameter Vollmaterial
Cutting parameters solid material



Werkstoffe Materials		fz (mm/z)		Schnittgeschwindigkeit · Cutting speed Vc (m/min)			
		Vorschub pro Zahn Feed per tooth		5 1000	5 1040	5 1300	5 1340
		Min	Max	HSS-DMo5 Dampfbehandelt Steam treated	HSS-DMo5 Kx-Beschichtet Kx-coated	HSS-Co5 Dampfbehandelt Steam treated	HSS-Co5 Kx-Beschichtet Kx-coated
Stahl · Steel	< 500 N/mm ²	0,025	0,08	30-40	30-50	-	-
	< 800 N/mm ²	0,025	0,07	20-35	25-40	-	-
	< 1200 N/mm ²	0,02	0,06	-	-	15-25	15-30
Rostfreie Stähle · Stainless steel		0,01	0,06	-	-	10-25	10-30
Guss · Cast iron		0,025	0,05	-	-	20-30	30-50
Aluminium · Aluminum		0,04	0,09	-	500-900	-	-
Bronze · Bronze		0,04	0,07	-	200-400	-	-
Kupfer · Copper		0,04	0,06	-	200-300	-	-
Messing · Brass		0,04	0,08	-	400-600	-	-
Zinklegierungen · Zinc Alloy		0,025	0,08	-	30-100	-	-
Inconel · Inconel		0,025	0,05	-	-	-	16-45
Titan · Titanium		0,02	0,05	-	-	-	15-30

Schnittparameter Rohre und Profile
Cutting parameters pipes and profiles



Werkstoffe Materials		fz (mm/z)		Schnittgeschwindigkeit · Cutting speed Vc (m/min)			
		Vorschub pro Zahn Feed per tooth		5 1000	5 1040 5 1305	5 1300	5 1340
		Min	Max	HSS-DMo5 Dampfbehandelt Steam treated	HSS-DMo5 Kx-Beschichtet Kx-coated	HSS-Co5 Dampfbehandelt Steam treated	HSS-Co5 Kx-Beschichtet Kx-coated
Stahl · Steel	< 500 N/mm ²	0,025	0,24	45-130	70-230	-	-
	< 800 N/mm ²	0,025	0,18	30-100	45-140	-	-
	< 1200 N/mm ²	0,02	0,12	-	-	15-50	25-100
Rostfreie Stähle · Stainless steel		0,01	0,12	-	-	15-45	16-80
Guss · Cast iron		0,025	0,05	-	-	15-45	30-65
Aluminium · Aluminum		0,025	0,12	-	1000-1600	-	-
Bronze · Bronze		0,04	0,07	-	200-400	-	-
Kupfer · Copper		0,04	0,06	-	200-300	-	-
Messing · Brass		0,04	0,08	-	400-600	-	-
Zinklegierungen · Zinc Alloy		0,025	0,08	-	30-100	-	-
Inconel · Inconel		0,02	0,08	-	-	-	16-45
Titan · Titanium		0,02	0,08	-	-	-	15-30

Festlegung der Schnittgeschwindigkeit Vc
Determination of cutting speed Vc

$$Vc \text{ (m/min)} = \frac{D \cdot \pi \cdot n}{1000}$$

Festlegung der Vorschubgeschwindigkeit Vf
Determination of feed rate Vf

$$Vf \text{ (mm/min)} = fz \cdot n \cdot Z$$

Festlegung der Drehzahl n
Determination of revolution speed n

$$n \text{ (min}^{-1}\text{)} = \frac{Vc \cdot 1000}{D \cdot \pi}$$

fz (mm/z) = Vorschub pro Zahn · Feed per tooth
D (mm) = Sägendurchmesser · Saw blade diameter
Z = Anzahl der Zähne · Number of teeth
n (min⁻¹) = Drehzahl · rpm



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5 1000

**HSS-DMo5
(M2)-DIN
1.3343**

Dampfbehandelt
Steam treated



ANWENDUNG · APPLICATION



Stahl
Steel
< 800 N

Siehe ab Seite 1121
See from page 1121

Für Stähle ≤ 800 N/mm²

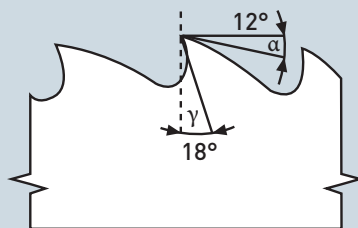
HSS-DMo5: Hochlegierter Schnellarbeitsstahl mit Wolfram-, Vanadium- und Molybdänanteil für:

- Sehr gute mechanische Eigenschaften und hervorragende Festigkeit mit einer Härte von 64 ± 1HRC.

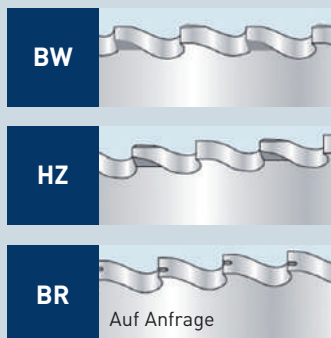
"**Dampfbehandelt**" ist eine kontrollierte Oxydierung CO₂ der Oberfläche durch Anlassen der fertigen Kreissägen in erhitztem Dampf bei ca. 350 °C. Dies ergibt:

- Feine Mikroporen zur besseren Verteilung des Kühlmittels.
- Oberflächenhärte von 900 HV.
- Außergewöhnlich feine Oberflächenschicht welche die Reibung extrem verringert (Reibungskoeffizient 0,60).

Zahnwinkel



ZAHNFORMEN



SEITENSCHLAG

∅ 200-225 = 0,15
∅ 250-300 = 0,20
∅ 315-400 = 0,25
∅ 425-450 = 0,30
∅ 500 = 0,35

Reduzierter Seitenschlag auf Anfrage

For steels ≤ 800 N/mm²

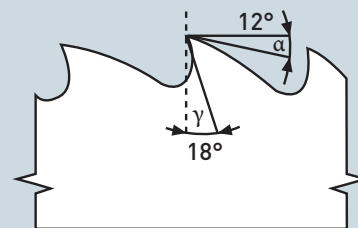
HSS-DMo5: High-speed steel which includes vanadium, wolfram and Molybdenum. This results to:

- Very good mechanical characteristics and excellent strength with a hardness of 64 ± 1HRC.

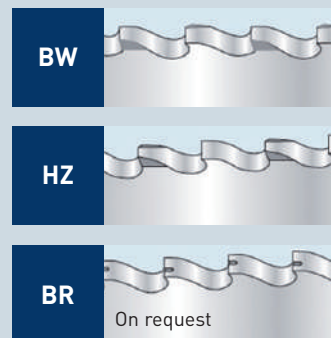
"**Steam treated**" is a surface modification by CO₂ oxidation. Circular saws are let to tempering in overheated steam of arround 350 °C. This results to:

- Microporosity arised on surface enables better coolant distribution
- Surface hardness of 900 HV.
- Extremely fine surface layer decreases the friction (antifriction). Coefficient friction 0,60.

Cutting angles



TOOTH SHAPE



SIDE RUNOUT

∅ 200-225 = 0,15
∅ 250-300 = 0,20
∅ 315-400 = 0,25
∅ 425-450 = 0,30
∅ 500 = 0,35

Reduced side runout on request

Film Movie



Kx Beschichtet
Kx coated

5 1040
HSS-DMo5
(M2)-DIN
1.3343



ANWENDUNG · APPLICATION

Stahl Steel	Alu Alu	Kupfer, Kupfer- legierungen Copper, copper alloys	Zinklegierung Zinc alloy
< 800 N			

Siehe ab Seite 1121
See from page 1121

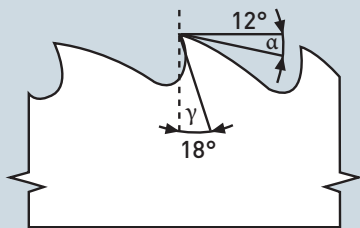
Für Stähle/Edelstähle ≤ 800 N/mm²
Aluminium, Kupfer, Messing

HSS-DMo5: Hochlegierter Schnellarbeitsstahl mit Wolfram-, Vanadium- und Molybdänanteil für:
– Sehr gute mechanische Eigenschaften und hervorragende Festigkeit mit einer Härte von 64 ± 1HRC.

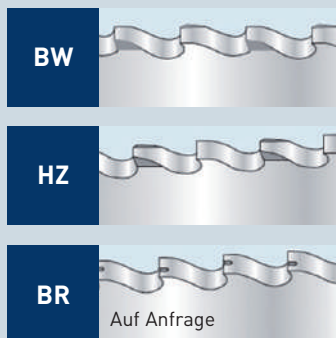
Kx Beschichtung: Ergibt generell weitaus höhere Standzeiten als Dampf-behandelte Blätter (siehe Art. 5 1000).

Weiterhin:
– Gute Widerstandsfähigkeit bei hohen Bearbeitungstemperaturen. Daher geeignet auch bei ungenügender Kühlung, Minimalschmierung, Sprühnebelschmierung.
– Durch geringen Reibungskoeffizient (0,45) und hoher Oberflächenhärte von 3500 HV sind höhere Schnittgeschwindigkeiten möglich. Daher ideal für automatische Maschinen.

Zahnwinkel



ZAHNFORMEN



SEITENSCHLAG

∅ 200–225 = 0,15
∅ 250–300 = 0,20
∅ 315–400 = 0,25
∅ 425–450 = 0,30
∅ 500 = 0,35

Reduzierter Seitenschlag auf Anfrage

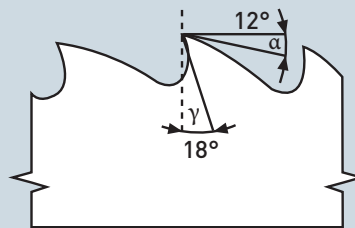
For steel/stainless steel ≤ 800 N/mm²
Aluminum, copper, brass

HSS-DMo5: High-speed steel which includes vanadium, wolfram and Molybdenum. This results to:
– Very good mechanical characteristics and excellent strength with a hardness of 64 ± 1HRC.

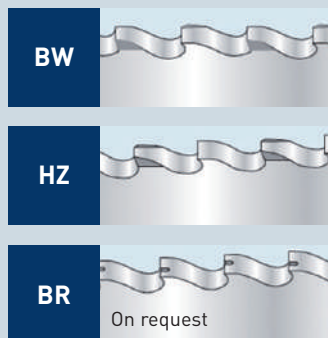
Kx coating: Provides much longer tool life than steam treated blades (see Art. 5 1000).

Furthermore:
– High resistance in high work temperatures. Therefore ideal also in cuts with insufficient cooling, minimal cooling, spray oil (mist).
– Due to low friction coefficient (0,45) and high surface hardness of 3500 HV suitable for higher cutting speed. Therefore ideal for automatic machines.

Cutting angles



TOOTH SHAPE



SIDE RUNOUT

∅ 200–225 = 0,15
∅ 250–300 = 0,20
∅ 315–400 = 0,25
∅ 425–450 = 0,30
∅ 500 = 0,35

Reduced side runout on request

Film
Movie



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5 1300
HSS-Co5
Cobalt 5%
(M35)-DIN 1.3243

Dampfbehandelt
Steam treated



ANWENDUNG · APPLICATION

Stahl	Edelstahl	Grauguss
Steel	Stainless	Grey cast iron
< 1200 N		

Siehe ab Seite 1121
See from page 1121

**Für Stähle/Edelstähle ≤ 1200 N/mm²
Guss, Bronze, Zinklegierungen, Inconel**

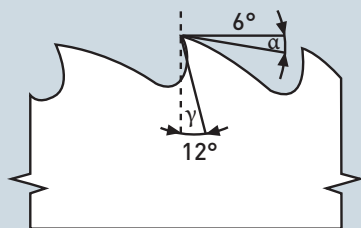
HSS-Co5: Hochlegierter Schnellarbeitsstahl mit Wolfram-, Molybdän- und **Kobaltanteile**. Kobalt verhindert das Kornwachstum bei hohen Betriebstemperaturen. Dadurch behält der Stahl seine Härte. Diese Eigenschaften sind erforderlich wenn **harte** und **hochlegierte** Werkstoffe wie z.B. Edelstahl geschnitten werden sollen, welche im Schneidbereich hohe Temperaturen erzeugen.

Härte des Stahls: 65 ± 1HRC.

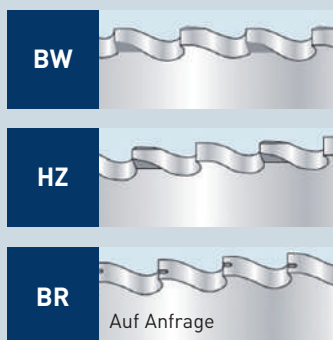
"Dampfbehandelt" ist eine kontrollierte Oxydierung CO₂ der Oberfläche durch Anlassen der fertigen Kreissägen in erhitztem Dampf bei ca. 350 °C. Dies ergibt:

- Feine Mikroporen zur besseren Verteilung des Kühlmittels.
- Oberflächenhärte von 900 HV.
- Außergewöhnlich feine Oberflächenschicht welche die Reibung extrem verringert (Reibungskoeffizient 0,60).

Zahnwinkel



ZAHNFORMEN



SEITENSCHLAG

∅ 200-225 = 0,15
∅ 250-300 = 0,20
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∅ 500 = 0,35

Reduzierter Seitenschlag auf Anfrage

**For steel/stainless steel ≤ 1200 N/mm²
Cast iron, bronze, zinc alloy, inconel**

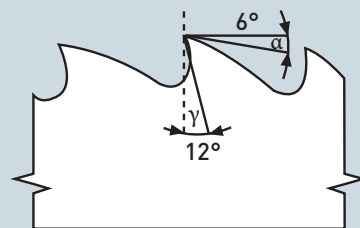
HSS-Co5: Strongly alloyed high speed steel with content of wolfram, molybdenum and **cobalt**. Cobalt obstructs critical grain growth and above all, maintains an excellent degree of hardness at high operating temperatures. These characteristics are very important when cutting very high-alloy materials such as stainless steel and very hard metals, which tend to develop high temperatures in the cutting zone.

Hardness of this steel: 65 ± 1HRC.

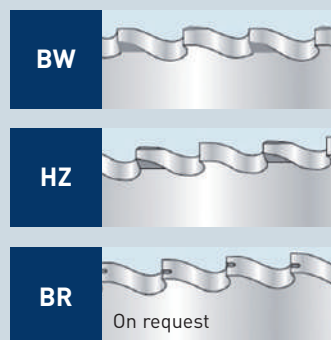
"Steam treated" is a surface modification by CO₂ oxidation. Circular saws are let to tempering in overheated steam of around 350 °C. This results to:

- Microporosity arised on surface enables better coolant distribution
- Surface hardness of 900 HV.
- Extremely fine surface layer decreases the friction (antifriction). Coefficient friction 0,60.

Cutting angles



TOOTH SHAPE



SIDE RUNOUT

∅ 200-225 = 0,15
∅ 250-300 = 0,20
∅ 315-400 = 0,25
∅ 425-450 = 0,30
∅ 500 = 0,35

Reduced side runout on request

Film
Movie



Kx Beschichtet
Kx coated

5 1340
HSS-Co5
Cobalt 5%
(M35)-DIN 1.3243



ANWENDUNG · APPLICATION

Stahl	Edelstahl	Grauguss	Inconel	Titan
Steel	Stainless	Grey cast iron	Inconel	Titanium
< 1200 N				

Siehe ab Seite 1121
See from page 1121

Für Stähle/Edelstähle ≤ 1200 N/mm²
Guss, Bronze, Zinklegierungen, Inconel

HSS-Co5: Hochlegierter Schnellarbeitsstahl mit Wolfram-, Molybdän- und Kobaltanteile. Kobalt verhindert das Kornwachstum bei hohen Betriebstemperaturen. Dadurch behält der Stahl seine Härte. Diese Eigenschaften sind erforderlich wenn **harte** und **hochlegierte** Werkstoffe wie z.B. Edelstahl geschnitten werden sollen, welche im Schneidbereich hohe Temperaturen erzeugen.

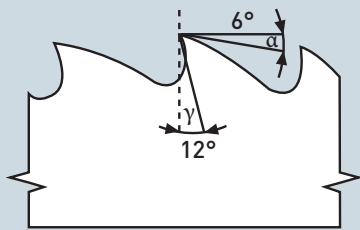
Härte des Stahls: 65 ± 1HRC.

Kx Beschichtung: Ergibt generell weitaus höhere Standzeiten als Dampf-behandelte Blätter (siehe Art. 5 1300).

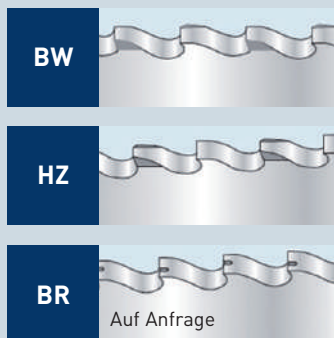
Weiterhin:

- Gute Widerstandsfähigkeit bei hohen Bearbeitungstemperaturen. Daher geeignet auch bei ungenügender Kühlung, Minimalschmierung, Sprühnebelschmierung.
- Durch geringen Reibungskoeffizient (0,50) und hoher Oberflächenhärte von 3500 HV sind höhere Schnittgeschwindigkeiten möglich. Daher ideal für automatische Maschinen.

Zahnwinkel



ZAHNFORMEN



SEITENSCHLAG

∅ 200-225 = 0,15
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∅ 315-400 = 0,25
∅ 425-450 = 0,30
∅ 500 = 0,35

Reduzierter Seitenschlag auf Anfrage

For steel/stainless steel ≤ 1200 N/mm²
Cast iron, bronze, zinc alloy, inconel

HSS-Co5: Strongly alloyed high speed steel with content of wolfram, molybdenum and **cobalt**. Cobalt obstructs critical grain growth and above all, maintains an excellent degree of hardness at high operating temperatures. These characteristics are very important when cutting very high-alloy materials such as stainless steel and very hard metals, which tend to develop high temperatures in the cutting zone.

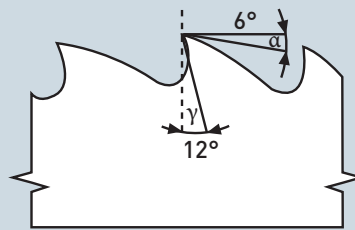
Hardness of this steel: 65 ± 1HRC.

Kx coating: Provides much longer tool life than steam treated blades (see Art. 5 1300).

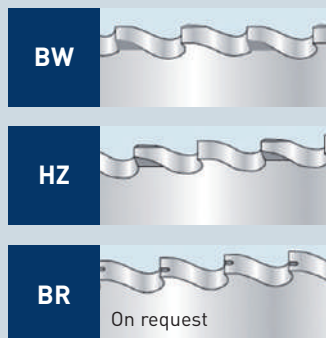
Furthermore:

- High resistance in high work temperatures. Therefore ideal also in cuts with insufficient cooling, minimal cooling, spray oil (mist).
- Due to low friction coefficient (0,50) and high surface hardness of 3500 HV suitable for higher cutting speed. Therefore ideal for automatic machines.

Cutting angles



TOOTH SHAPE



SIDE RUNOUT

∅ 200-225 = 0,15
∅ 250-300 = 0,20
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∅ 425-450 = 0,30
∅ 500 = 0,35

Reduced side runout on request

Film
Movie



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5 1305

**HSS-DMo5
(M2)-DIN
1.3343**

Kx Beschichtet + Profil Geometrie
Kx coated + profile geometry



ANWENDUNG · APPLICATION

Stahl Steel	Alu Alu	Kupfer, Kupfer- legierungen Copper, copper alloys	Zinklegierung Zinc alloy
< 800 N			

Beste Schneidgeometrie zum Sägen von Rohren und Profilen aus Stahl/Edelstahl ≤ 800 N/mm² sowie aus Aluminium, Kupfer, Messing

Preis und Lieferzeit auf Anfrage

HSS-DMo5: Hochlegierter Schnellarbeitsstahl mit Wolfram-, Vanadium- und Molybdänanteil für:
– Sehr gute mechanische Eigenschaften und hervorragende Festigkeit mit einer Härte von 64 ± 1HRC.

Kx Beschichtung: Ergibt generell weitaus höhere Standzeiten als Dampf-behandelte Blätter (siehe Art. 5 1000).

Weiterhin:

- Gute Widerstandsfähigkeit bei hohen Bearbeitungstemperaturen. Daher geeignet auch bei ungenügender Kühlung, Minimalschmierung, Sprühnebelschmierung.
- Durch geringen Reibungskoeffizient (0,45) und hoher Oberflächenhärte von 3500 HV sind höhere Schnittgeschwindigkeiten möglich. Daher Ideal für automatische Maschinen.

Best cutting geometry for cutting pipes, profiles made of steel/stainless steel ≤ 800 N/mm² and made of aluminum, copper, brass

Price and time of delivery on request

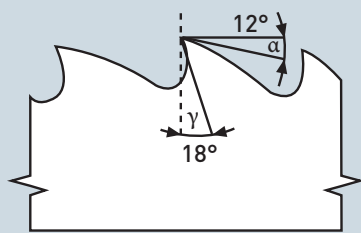
HSS-DMo5: High-speed steel which includes vanadium, wolfram and Molybdenum. This results to:
– Very good mechanical characteristics and excellent strength with a hardness of 64 ± 1HRC.

Kx coating: Provides much longer tool life than steam treated blades (see Art. 5 1000).

Furthermore:

- High resistance in high work temperatures. Therefore ideal also in cuts with insufficient cooling, minimal cooling, spray oil (mist).
- Due to low friction coefficient (0,45) and high surface hardness of 3500 HV suitable for higher cutting speed. Therefore ideal for automatic machines.

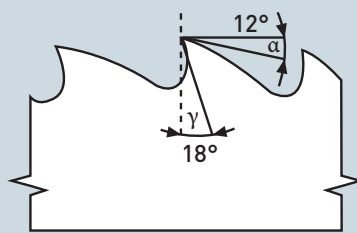
Zahnwinkel



Profil Geometrie (BR)



Cutting angles



Profile Geometry (BR)



ZAHNFORMEN



SEITENSCHLAG

∅ 200–225 = 0,15
∅ 250–300 = 0,20
∅ 315–400 = 0,25
∅ 425–450 = 0,30
∅ 500 = 0,35

Reduzierter Seitenschlag auf Anfrage

TOOTH SHAPE



SIDE RUNOUT

∅ 200–225 = 0,15
∅ 250–300 = 0,20
∅ 315–400 = 0,25
∅ 425–450 = 0,30
∅ 500 = 0,35

Reduced side runout on request

Film
Movie



Anwendung siehe Seite
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						1116	1117	1118	1119				
						5 1000 HSS-DMo5 Dampfbehandelt Steam treated	5 1040 HSS-DMo5 Kx-Beschichtet Kx-coated	5 1300 HSS-Co5 Dampfbehandelt Steam treated	5 1340 HSS-Co5 Kx-Beschichtet Kx-coated				
						Art.	€	Art.	€	Art.	€	Art.	€
200	1,2	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 200 010	57,55	-	-	-	-	-	-	-
200	1,2	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 020	62,45	-	-	-	-	-	-	-
200	1,2	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 030	62,45	-	-	-	-	-	-	-
200	1,2	32	140 BW	2-8-45+2-9-50+2-11-63	⊗ 5 1000 200 040	33,50	-	-	-	-	-	-	-
200	1,6	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 200 050	52,85	-	-	-	-	-	-	-
200	1,6	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 060	57,40	-	-	-	-	-	-	-
200	1,6	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 070	57,40	-	-	-	-	-	-	-
200	1,6	32	100 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 200 080	57,40	-	-	-	-	-	-	-
200	1,8	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 200 090	51,60	-	-	-	-	-	-	-
200	1,8	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 100	56,10	-	-	-	-	-	-	-
200	1,8	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 110	56,10	-	-	-	-	-	-	-
200	2,0	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 200 130	54,05	-	-	-	-	-	-	-
200	2,0	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 140	58,80	-	-	-	-	-	-	-
200	2,0	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 150	58,80	-	-	-	-	-	-	-
200	2,0	32	130 BW	2-8-45+2-9-50+2-11-63	● 5 1000 200 160	58,80	-	-	-	-	-	-	-
200	2,0	32	100 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 200 170	58,80	-	-	-	-	-	-	-
200	2,0	32	0	-	⊗ 5 1000 200 180	27,30	-	-	-	-	-	-	-
200	2,0	32	200 BW	-	⊗ 5 1000 200 190	29,65	-	-	-	-	-	-	-
200	2,0	32	160 BW	-	-	-	-	-	-	-	-	-	-
200	2,0	32	130 BW	-	⊗ 5 1000 200 210	29,65	-	-	-	-	-	-	-
200	2,0	32	100 HZ	-	⊗ 5 1000 200 220	31,50	-	-	-	-	-	-	-
210	2,0	32	0	2-8-45+2-9-50+2-11-63	-	-	-	-	⊗ 5 1300 210 010	34,65	-	-	-
210	2,0	32	210 BW	2-8-45+2-9-50+2-11-63	⊗ 5 1000 210 020	40,40	-	-	-	-	-	-	-
210	2,0	32	160 BW	2-8-45+2-9-50+2-11-63	-	-	-	-	⊗ 5 1300 210 025	37,25	-	-	-
210	2,0	32	120 HZ	2-8-45+2-9-50+2-11-63	-	-	⊗ 5 1040 210 027	41,55	-	-	-	-	-
210	2,0	40	0	2-8-55 + 4-11-63	⊗ 5 1000 210 030	37,15	-	-	⊗ 5 1300 210 030	34,65	-	-	-
210	2,0	40	160 BW	2-8-55 + 4-11-63	⊗ 5 1000 210 040	40,40	-	-	-	-	-	-	-
225	1,2	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 225 010	78,35	-	-	-	-	-	-	-
225	1,2	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 020	87,50	-	-	-	-	-	-	-
225	1,2	32	180 BW	2-8-45+2-9-50+2-11-63	⊗ 5 1000 225 030	40,95	-	-	-	-	-	-	-
225	1,2	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 040	87,50	-	-	-	-	-	-	-
225	1,6	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 225 050	64,65	-	-	-	-	-	-	-
225	1,6	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 060	70,40	-	-	-	-	-	-	-
225	1,6	32	180 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 070	70,40	-	-	-	-	-	-	-
225	1,6	32	160 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 080	70,40	-	-	-	-	-	-	-
225	1,6	32	120 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 225 090	70,40	-	-	-	-	-	-	-
225	1,6	40	0	2-8-55 + 4-11-63	⊗ 5 1000 225 100	32,85	-	-	⊗ 5 1300 225 100	33,80	-	-	-
225	1,6	40	180 BW	2-8-55 + 4-11-63	⊗ 5 1000 225 110	35,70	-	-	-	-	-	-	-
225	1,6	40	120 HZ	2-8-55 + 4-11-63	⊗ 5 1000 225 120	35,70	-	-	-	-	-	-	-
225	2,0	32	0	2 NL REMS/Roller	⊗ 5 1000 225 130	33,35	-	-	-	-	-	-	-
225	2,0	32	220 BW	2 NL REMS/Roller	⊗ 5 1000 225 140	35,90	-	-	-	-	-	-	-
225	2,0	32	180 BW	2 NL REMS/Roller	⊗ 5 1000 225 150	35,90	⊗ 5 1040 225 150	48,30	⊗ 5 1300 225 150	44,60	-	-	-
225	2,0	32	120 HZ	2 NL REMS/Roller	⊗ 5 1000 225 160	51,20	⊗ 5 1040 225 160	45,55	-	-	-	-	-
225	2,0	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 225 170	56,50	-	-	● 5 1300 225 170	73,90	-	-	-
225	2,0	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 180	61,45	● 5 1040 225 180	88,90	● 5 1300 225 180	80,35	-	-	-
225	2,0	32	180 BW	2-8-45+2-9-50+2-11-63	● 5 1000 225 190	61,45	● 5 1040 225 190	88,90	● 5 1300 225 190	80,35	-	-	-
225	2,0	32	160 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 225 200	61,45	● 5 1040 225 200	88,90	● 5 1300 225 200	80,35	-	-	-
225	2,0	32	120 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 225 210	61,45	● 5 1040 225 210	88,90	● 5 1300 225 210	80,35	-	-	-
225	2,0	32	90 BW	2-8-45+2-9-50+2-11-63	⊗ 5 1000 225 220	31,00	-	-	-	-	-	-	-
225	2,0	32	0	4-9-50 + 4-11-63	⊗ 5 1000 225 230	28,50	-	-	-	-	-	-	-
225	2,0	32	220 BW	4-9-50 + 4-11-63	-	-	-	-	-	-	-	-	-
225	2,0	32	160 BW	4-9-50 + 4-11-63	⊗ 5 1000 225 250	31,00	-	-	-	-	-	-	-
225	2,0	32	120 BW	4-9-50 + 4-11-63	⊗ 5 1000 225 260	31,00	-	-	-	-	-	-	-
225	2,0	32	90 HZ	4-9-50 + 4-11-63	⊗ 5 1000 225 270	31,00	-	-	-	-	-	-	-
225	2,0	40	0	2-8-55 + 4-11-63	⊗ 5 1000 225 280	28,50	-	-	⊗ 5 1300 225 280	37,65	-	-	-
225	2,0	40	220 BW	2-8-55 + 4-11-63	⊗ 5 1000 225 290	31,00	⊗ 5 1040 225 290	45,55	-	-	-	-	-

⊗ Sonderpreis / Sale Artikel. Lieferbar solange Vorrat. Special price / sale article. While stocks last.

Weitere Abmessungen auf Anfrage / Other dimensions are available on request



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Karnasch® METALLKREISSÄGEBLÄTTER METAL CIRCULAR SAW BLADES

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Application see page

					1116		1117		1118		1119	
D	T	K	BW	HZ	5 1000		5 1040		5 1300		5 1340	
					HSS-DMo5 Dampfbehandelt Steam treated		HSS-DMo5 Kx-Beschichtet Kx-coated		HSS-Co5 Dampfbehandelt Steam treated		HSS-Co5 Kx-Beschichtet Kx-coated	
					Art.	€	Art.	€	Art.	€	Art.	€
275	3,0	32	220 BW	2-8-45+2-9-50+2-11-63	% 5 1000 275 570	56,75	-	-	-	-	-	-
275	3,0	32	140 HZ	2-8-45+2-9-50+2-11-63	-	-	-	-	-	-	-	-
275	3,0	32	110 HZ	2-8-45+2-9-50+2-11-63	-	-	-	-	-	-	-	-
275	3,0	32	0	4-9-50 + 4-11-63	% 5 1000 275 600	52,20	-	-	-	-	-	-
275	3,0	40	0	2-8-55 + 4-12-64	% 5 1000 275 610	52,20	-	-	-	-	-	-
275	3,0	40	220 BW	2-8-55 + 4-12-64	% 5 1000 275 620	56,75	-	-	-	-	-	-
300	1,6	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 300 010	99,80	-	-	● 5 1300 300 010	132,50	-	-
300	1,6	32	300 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 020	108,45	-	-	-	-	-	-
300	1,6	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 030	108,45	-	-	-	-	-	-
300	1,6	32	180 BW	2-8-45+2-9-50+2-11-63	% 5 1000 300 040	58,25	-	-	-	-	-	-
300	2,0	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 300 050	95,15	-	-	● 5 1300 300 050	126,30	-	-
300	2,0	32	300 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 060	103,20	-	-	-	-	-	-
300	2,0	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 070	103,20	-	-	-	-	-	-
300	2,0	32	180 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 080	103,20	-	-	-	-	-	-
300	2,5	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 300 090	96,35	-	-	● 5 1300 300 090	127,85	-	-
300	2,5	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 100	104,75	● 5 1040 300 100	147,85	● 5 1300 300 100	138,95	● 5 1340 300 100	175,20
300	2,5	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 110	104,75	% 5 1040 300 110	82,55	● 5 1300 300 110	138,95	● 5 1340 300 110	175,20
300	2,5	32	180 BW	2-8-45+2-9-50+2-11-63	● 5 1000 300 120	104,75	● 5 1040 300 120	147,85	● 5 1300 300 120	138,95	-	-
300	2,5	32	160 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 300 130	104,75	% 5 1040 300 130	82,55	● 5 1300 300 130	138,95	● 5 1340 300 130	175,20
300	2,5	32	120 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 300 140	104,75	● 5 1040 300 140	147,85	● 5 1300 300 140	138,95	-	-
300	2,5	32	100 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 300 150	104,75	-	-	-	-	-	-
300	2,5	32	0	-	% 5 1000 300 160	48,60	-	-	-	-	-	-
300	2,5	32	220 BW	-	-	-	-	-	-	-	-	-
300	2,5	32	200 BW	-	% 5 1000 300 180	52,85	-	-	-	-	-	-
300	2,5	32	160 HZ	-	% 5 1000 300 190	52,85	-	-	-	-	-	-
300	2,5	32	120 HZ	-	% 5 1000 300 200	52,85	-	-	-	-	-	-
300	2,5	40	0	2-8-55 + 4-12-64	● 5 1000 300 210	96,35	-	-	● 5 1300 300 210	127,85	-	-
300	2,5	40	220 BW	2-8-55 + 4-12-64	● 5 1000 300 220	104,75	● 5 1040 300 220	147,85	● 5 1300 300 220	138,95	● 5 1340 300 220	175,20
300	2,5	40	200 BW	2-8-55 + 4-12-64	● 5 1000 300 230	104,75	% 5 1040 300 230	82,55	● 5 1300 300 230	138,95	-	-
300	2,5	40	180 BW	2-8-55 + 4-12-64	● 5 1000 300 240	104,75	-	-	● 5 1300 300 240	138,95	% 5 1340 300 240	93,65
300	2,5	40	160 HZ	2-8-55 + 4-12-64	● 5 1000 300 250	104,75	● 5 1040 300 250	147,85	● 5 1300 300 250	138,95	● 5 1340 300 250	175,20
300	2,5	40	120 HZ	2-8-55 + 4-12-64	● 5 1000 300 260	104,75	● 5 1040 300 260	147,85	● 5 1300 300 260	138,95	-	-
300	2,5	40	100 HZ	2-8-55 + 4-12-64	● 5 1000 300 270	104,75	-	-	-	-	-	-
300	3,0	32	160 HZ	2-8-45+2-9-50+2-11-63	-	-	-	-	-	-	-	-
300	3,0	32	120 HZ	2-8-45+2-9-50+2-11-63	% 5 1000 300 290	61,30	-	-	-	-	-	-
300	3,0	32	0	-	% 5 1000 300 300	56,40	-	-	-	-	-	-
300	3,0	40	0	2-8-55 + 4-12-64	% 5 1000 300 310	56,40	-	-	-	-	-	-
300	3,0	40	160 HZ	2-8-55 + 4-12-64	-	-	-	-	-	-	-	-
300	3,0	40	120 HZ	2-8-55 + 4-12-64	-	-	-	-	-	-	-	-
315	1,6	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 315 010	114,30	-	-	● 5 1300 315 010	138,35	-	-
315	1,6	32	300 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 020	123,85	-	-	-	-	-	-
315	1,6	32	240 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 030	123,85	-	-	-	-	-	-
315	1,6	32	220 BW	2-8-45+2-9-50+2-11-63	% 5 1000 315 040	66,40	-	-	-	-	-	-
315	1,6	32	200 BW	2-8-45+2-9-50+2-11-63	% 5 1000 315 050	66,40	-	-	-	-	-	-
315	1,6	40	0	2-8-55 + 4-12-64	● 5 1000 315 060	114,30	-	-	● 5 1300 315 060	138,35	-	-
315	1,6	40	300 BW	2-8-55 + 4-12-64	● 5 1000 315 070	123,85	-	-	-	-	-	-
315	1,6	40	240 BW	2-8-55 + 4-12-64	% 5 1000 315 080	66,40	-	-	-	-	-	-
315	1,6	40	220 BW	2-8-55 + 4-12-64	% 5 1000 315 090	66,40	-	-	-	-	-	-
315	1,6	40	200 BW	2-8-55 + 4-12-64	● 5 1000 315 100	123,85	-	-	-	-	-	-
315	2,0	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 315 110	102,55	-	-	● 5 1300 315 110	132,70	-	-
315	2,0	32	300 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 120	111,45	-	-	-	-	-	-
315	2,0	32	240 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 130	111,45	-	-	-	-	-	-
315	2,0	32	220 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 140	111,45	-	-	-	-	-	-
315	2,0	32	200 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 150	111,45	-	-	-	-	-	-
315	2,0	32	180 BW	2-8-45+2-9-50+2-11-63	● 5 1000 315 160	111,45	-	-	-	-	-	-
315	2,0	40	0	2-8-55 + 4-12-64	● 5 1000 315 170	102,55	-	-	● 5 1300 315 170	132,70	-	-

% Sonderpreis / Sale Artikel. Lieferbar solange Vorrat. Special price / sale article. While stocks last.

Weitere Abmessungen auf Anfrage · Other dimensions are available on request

Anwendung siehe Seite
Application see page

					1116		1117		1118		1119	
Art.	D	L	BW	HZ	5 1000 HSS-DMo5 Dampfbehandelt Steam treated		5 1040 HSS-DMo5 Kx-Beschichtet Kx-coated		5 1300 HSS-Co5 Dampfbehandelt Steam treated		5 1340 HSS-Co5 Kx-Beschichtet Kx-coated	
					Art.	€	Art.	€	Art.	€	Art.	€
370	3,0	40	0	2-8-55+4-12-64	● 5 1000 370 130	182,00	-	-	● 5 1300 370 130	244,45	-	-
370	3,0	40	220 BW	2-8-55+4-12-64	● 5 1000 370 140	195,65	-	-	-	-	-	-
370	3,0	40	160 HZ	2-8-55+4-12-64	● 5 1000 370 150	195,65	-	-	-	-	-	-
370	3,0	40	120 HZ	2-8-55+4-12-64	● 5 1000 370 160	195,65	-	-	-	-	-	-
370	3,0	50	0	4-15-80 + 4-14-85	● 5 1000 370 170	182,00	-	-	● 5 1300 370 170	244,45	-	-
370	3,0	50	220 BW	4-15-80 + 4-14-85	● 5 1000 370 180	195,65	⊗ 5 1040 370 180	138,70	● 5 1300 370 180	258,90	-	-
370	3,0	50	160 HZ	4-15-80 + 4-14-85	● 5 1000 370 190	195,65	⊗ 5 1040 370 190	246,15	● 5 1300 370 190	258,90	-	-
370	3,0	50	120 HZ	4-15-80 + 4-14-85	● 5 1000 370 200	195,65	⊗ 5 1040 370 200	138,70	● 5 1300 370 200	258,90	-	-
370	3,0	50	100 HZ	4-15-80 + 4-14-85	● 5 1000 370 210	195,65	⊗ 5 1040 370 210	246,15	● 5 1300 370 210	258,90	-	-
400	2,5	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 400 010	210,65	-	-	● 5 1300 400 010	290,00	-	-
400	2,5	32	240 BW	2-8-45+2-9-50+2-11-63	⊗ 5 1000 400 020	123,85	-	-	-	-	-	-
400	2,5	32	200 HZ	2-8-45+2-9-50+2-11-63	⊗ 5 1000 400 030	123,85	-	-	-	-	-	-
400	2,5	32	160 HZ	2-8-45+2-9-50+2-11-63	⊗ 5 1000 400 040	123,85	-	-	-	-	-	-
400	2,5	50	0	4-15-80+4-14-85	⊗ 5 1000 400 050	113,90	-	-	● 5 1300 400 050	279,90	-	-
400	2,5	50	240 BW	4-15-80+4-14-85	● 5 1000 400 060	228,65	-	-	-	-	-	-
400	2,5	50	200 HZ	4-15-80+4-14-85	⊗ 5 1000 400 070	123,85	-	-	-	-	-	-
400	2,5	50	160 HZ	4-15-80+4-14-85	● 5 1000 400 080	228,65	-	-	-	-	-	-
400	3,0	32	0	2-8-45+2-9-50+2-11-63	● 5 1000 400 090	204,75	-	-	● 5 1300 400 090	274,10	-	-
400	3,0	32	200 HZ	2-8-45+2-9-50+2-11-63	● 5 1000 400 100	222,30	-	-	-	-	-	-
400	3,0	32	160 HZ	2-8-45+2-9-50+2-11-63	⊗ 5 1000 400 110	118,80	-	-	-	-	-	-
400	3,0	32	120 HZ	2-8-45+2-9-50+2-11-63	⊗ 5 1000 400 120	118,80	-	-	-	-	-	-
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425	3,0	50	120 HZ	4-15-80+4-14-85	⊗ 5 1000 425 070	128,65	-	-	-	-	-	-

⊗ Sonderpreis / Sale Artikel. Lieferbar solange Vorrat. Special price / sale article. While stocks last.

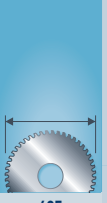
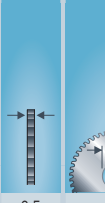

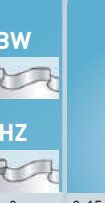

Weitere Abmessungen auf Anfrage · Other dimensions are available on request



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Karnasch® METALLKREISSÄGEBLÄTTER METAL CIRCULAR SAW BLADES

Anwendung siehe Seite
Application see page

						1116		1117		1118		1119	
						5 1000 HSS-DMo5 Dampfbehandelt Steam treated		5 1040 HSS-DMo5 Kx-Beschichtet Kx-coated		5 1300 HSS-Co5 Dampfbehandelt Steam treated		5 1340 HSS-Co5 Kx-Beschichtet Kx-coated	
						Art.	€	Art.	€	Art.	€	Art.	€
						● 5 1000 425 080	265,00	-	-	● 5 1300 425 080	379,75	-	-
425	3,5	40	0	2-15-80 + 2-15-100 + 4-12-64		● 5 1000 425 090	156,10	-	-	-	-	-	-
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425	3,5	50	0	4-15-80+4-14-85		● 5 1000 425 120	287,60	-	-	-	-	-	-
425	3,5	50	220 HZ	4-15-80+4-14-85		● 5 1000 425 130	287,60	-	-	-	-	-	-
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450	3,0	40	180 HZ	2-15-80 + 2-15-100 + 4-12-64		● 5 1000 450 040	283,40	-	-	-	-	-	-
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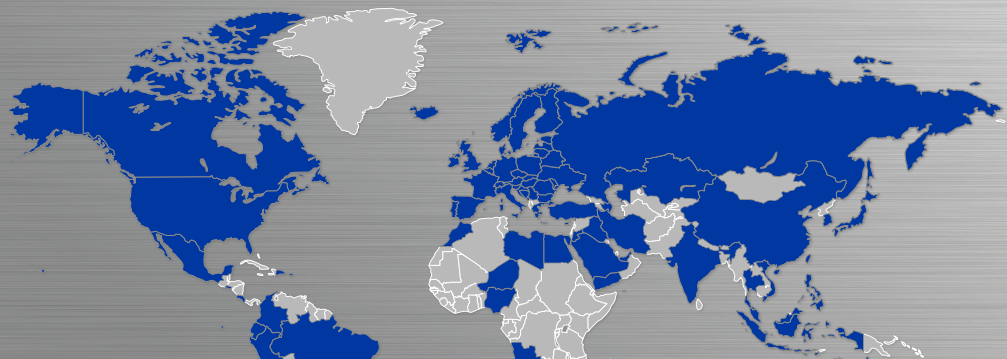
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