



# Your partner for metal sawing

CERATIZIT is a high-tech engineering group specialised in tooling and hard material technologies.

**Tooling the Future**

[www.cerazit.com](http://www.cerazit.com)



# Contents

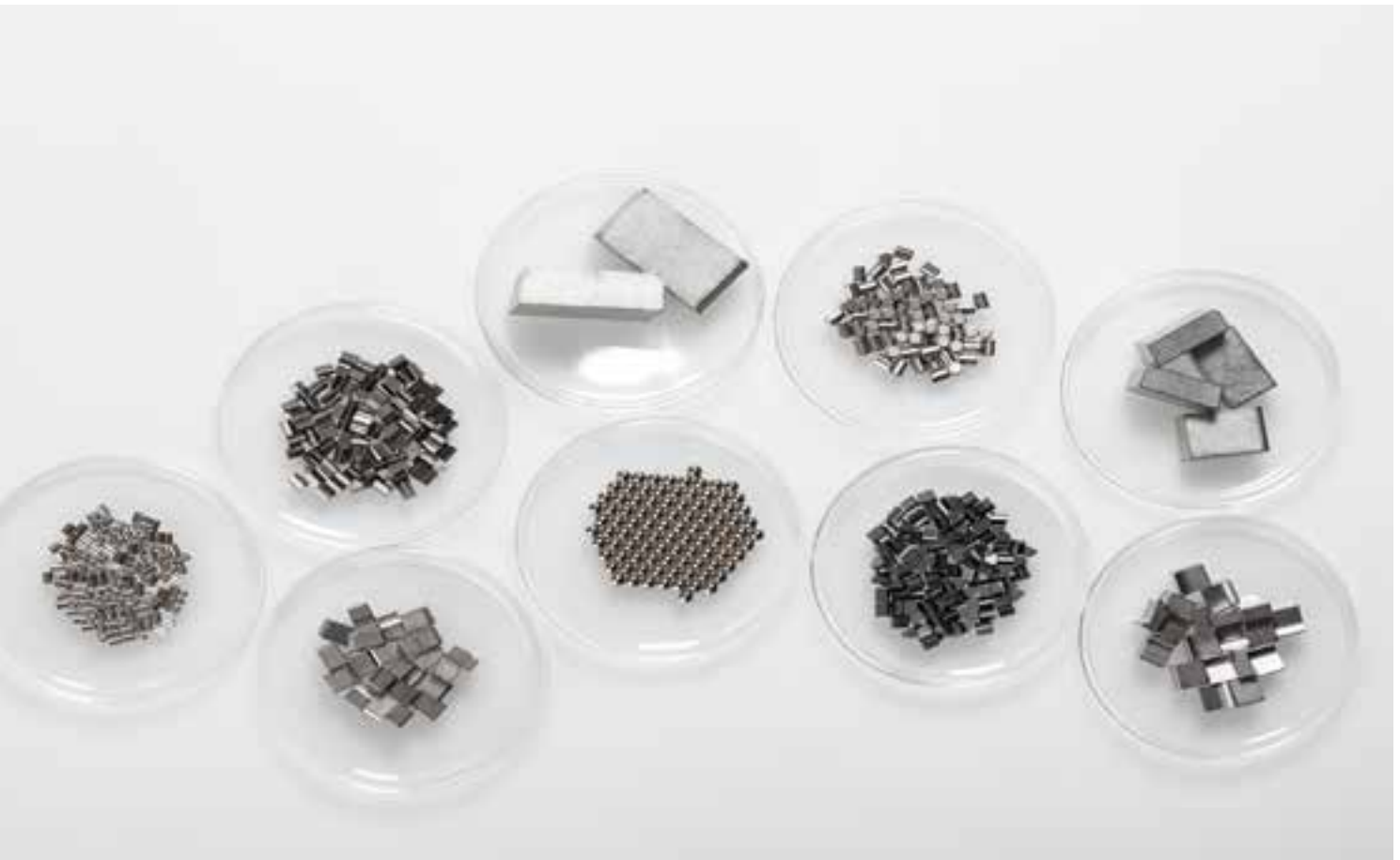
▲ Saw tips for metal sawing	4
▲ Grades for metal sawing	5
▲ Tips for circular saws	6
Grade recommendation	8
Full range	10
▲ Tips for band saws	16
Grade recommendation	18
Full range	20

## Saw tips for metal sawing

In the field of saw tip production, we have long-standing experience and are known for pioneering innovations in the world of metal cutting. Whether for band saws or circular saws, with Toolmaker Solutions by CERATIZIT you will find a wide variety of saw tips for metal sawing.

The combination of high carbide quality, state-of-the-art manufacturing technologies and comprehensive application knowledge enables us to support our customers when developing and producing the best carbide saws.

Most of the carbide grades presented here are surface-treated, ready-to-braze and suitable for PVD coating. For our band sawing tips we offer cobalt and nickel coating suitable for resistance welding.



## Grades for metal sawing

### P grades

Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
S25T	9.5 % Co	medium	12.50	1550	91.5	10.5	2800
S25U	9.0 % Co	fine	11.70	1490	91.0	10.2	2700
S40T	11.0 % Co	fine	13.25	1440	90.6	13.5	2400
S40U	13.5 % Co	fine	12.50	1400	90.3	11.0	2000
SMX	10.5 % Co	fine	12.40	1550	91.5	10.0	2200

### K grades

Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
CTS12D	6.0 % Co	submicron	14.95	1800	92.9	8.8	3700
CTS15D	7.5 % Co	submicron	14.80	1740	92.6	9.5	3800
CTS18D	9.0 % Co	submicron	14.55	1610	91.9	11.0	3800
CTS22D	11.0 % Co	submicron	14.35	1520	91.2	12.0	3900
CTS24D	12.0 % Co	submicron	14.15	1480	90.9	12.5	4000
CTS30D	15.0 % Co	submicron	13.85	1435	90.5	13.5	4300

### Chrome grades

Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
KCR05+	3.0 % Co	ultrafine	15.25	2160	94.5	7.8	2900
KCR10	4.0 % Co	fine	15.15	1780	92.8	10.1	2800

### Cermet grade

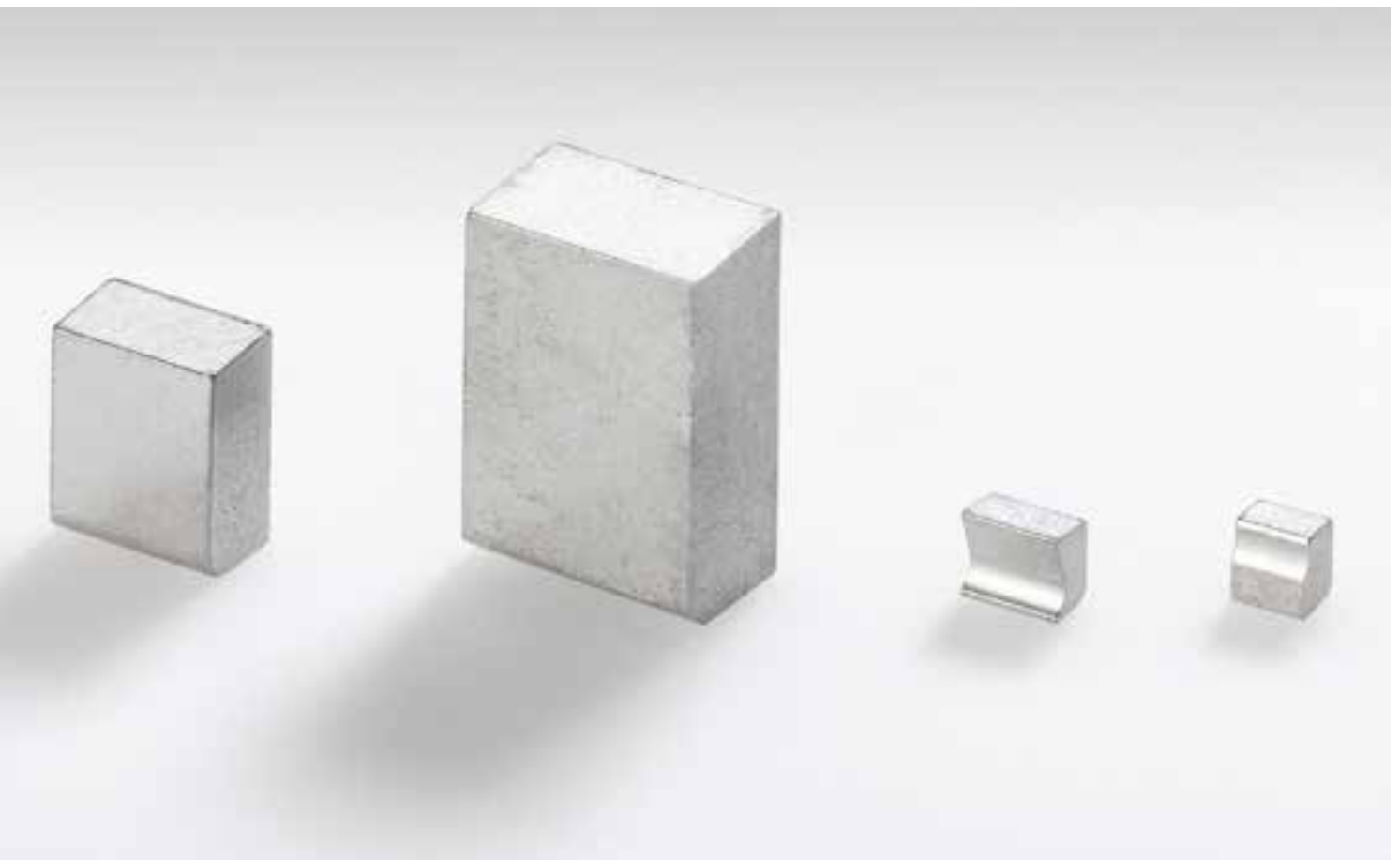
Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
CTF34T	17.0 % Co + Ni	medium	6.40	1490	91.0	10.0	1960

Please note: the information given here is for illustrative purposes only, and does not constitute either a specification or a representation.

## Tips for circular saws

For circular saws, we provide one of the most extensive standard ranges of grades and styles, with different dimensions and angles.

It goes without saying that we are happy to produce other geometries for you on request.





## Grade recommendation

As each metal has its very own specific properties, we offer a wide variety of grades in the field of metal sawing. The table below will guide you in finding the right grade for your application.



Grade	Non-ferrous, aluminium	Cast iron	Abrasive material	Composite material	Steel	Stainless steels	Titanium	Nickel alloy
KCR05+	•••		••••	••••				
KCR10	••••	•••						
CTF34T					••••			
S25T*					••••			
S25U*					•••			
S40T*					••••			
S40U*					•••			
SMX				••••				
CTS12D	•••	••••	•••					
CTS15D	••	•••	••					
CTS18D		••		••••	••••	•••		
CTS22D					••		••••	•••
CTS24D							•••	••••
CTS30D							••	•••

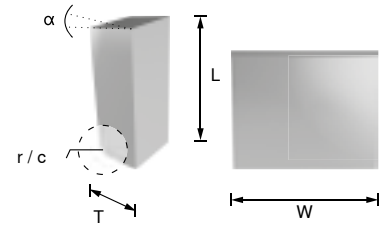
S25U\* / S40U\*: best price / performance ratio  
S25T\* / S40T\*: superior performance



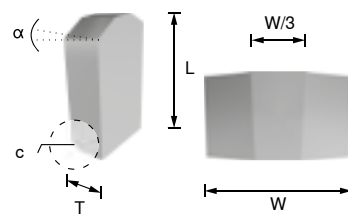


Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
KCR05+	3.0 % Co	ultrafine	15.25	2160	94.5	7.8	2900
KCR10	4.0 % Co	fine	15.15	1780	92.8	10.1	2800
CTF34T	17.0 % Co + Ni	medium	6.40	1490	91.0	10.0	1960
S25T*	9.5 % Co	medium	12.50	1550	91.5	10.5	2800
S25U*	9.0 % Co	fine	11.70	1490	91.0	10.2	2700
S40T*	11.0 % Co	fine	13.25	1440	90.6	13.5	2400
S40U*	13.5 % Co	fine	12.50	1400	90.3	11.0	2000
SMX	10.5 % Co	fine	12.40	1550	91.5	10.0	2200
CTS12D	6.0 % Co	submicron	14.95	1800	92.9	8.8	3700
CTS15D	7.5 % Co	submicron	14.80	1740	92.6	9.5	3800
CTS18D	9.0 % Co	submicron	14.55	1610	91.9	11.0	3800
CTS22D	11.0 % Co	submicron	14.35	1520	91.2	12.0	3900
CTS24D	12.0 % Co	submicron	14.15	1480	90.9	12.5	4000
CTS30D	15.0 % Co	submicron	13.85	1435	90.5	13.5	4300

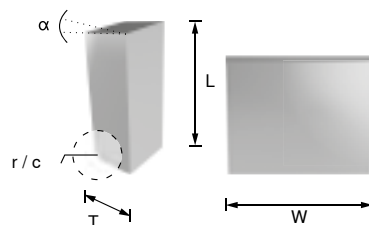
Please note: the information given here is for illustrative purposes only, and does not constitute either a specification or a representation.

Block design, top angle ( $\alpha \leq 10^\circ$ )

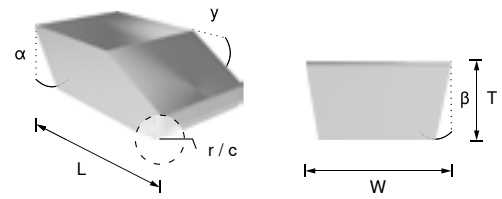
Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	r [mm]	c [mm]	Chamfer angle [°]
51508	4.4	2.0 – 11.5	2.9	0	0.5		
51500	4.4	2.0 – 6.5	2.4	0	0.5		
20771	5.3	2.0 – 15.0	2.7	8	1.0		
20772	7.0	2.0 – 17.0	4.0	8		1.0	45
20771	7.5	2.0 – 15.0	4.0	8	1.0		
20771	8.0	2.0 – 8.0	2.6	8	1.0		
20771	8.0	2.0 – 14.0	3.0	8	1.0		
20771	8.0	2.0 – 14.0	4.0	8	1.0		
20771	9.0	2.0 – 17.0	4.0	8	1.0		
20772	10.0	2.0 – 10.0	3.2	8		1.0	45
20771	10.0	2.0 – 15.0	4.0	8	1.0		
20771	10.0	2.0 – 17.0	4.5	8	1.0		
20771	10.5	2.0 – 18.0	2.6	8	1.0		
20771	10.5	2.0 – 16.0	3.0	8	1.0		
20771	10.5	2.0 – 16.5	3.5	8	1.0		
20771	11.0	2.0 – 14.0	3.5	8	1.0		
20771	11.0	2.0 – 15.0	4.0	8	1.0		
20771	12.0	2.0 – 17.0	4.0	8	1.0		
20772	12.0	2.0 – 17.0	4.0	8		1.0	45
20771	12.0	2.0 – 15.0	5.0	8	1.0		
20771	13.0	2.0 – 15.0	4.0	8	1.0		
20772	13.0	2.0 – 15.0	4.0	8		1.0	45
20771	15.0	2.0 – 17.0	4.0	8	1.0		
20772	15.0	2.0 – 17.0	4.0	8		1.0	45
20771	15.0	2.0 – 16.5	6.0	8	1.0		
20772	15.0	2.0 – 16.5	6.0	8		1.0	45
20772	16.0	2.0 – 14.0	4.0	8		1.0	45
20772	20.0	2.0 – 20.0	4.0	8		1.0	45
20771	20.0	2.0 – 22.0	6.0	8	1.0		
20772	20.0	2.0 – 22.0	6.0	8		1.0	45

Block design tapered, top angle ( $\alpha \leq 10^\circ$ )

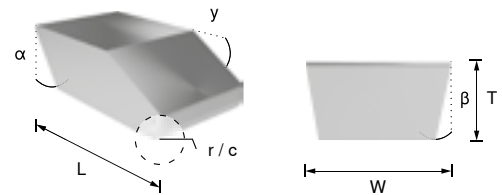
Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	c [mm]	Chamfer angle [°]
20769	12.3	7.2	4	8	0.6	45
20769	15.3	8.2	4	8	0.6	45

Block design, top angle ( $\alpha > 10^\circ$ )

Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	r [mm]	c [mm]	Chamfer angle [°]
60798	6.1	2.0 – 6.5	1.7	30	0.5		
19796	10.5	2.0 – 10.5	2.5	20	0.5		
43368	12.0	2.0 – 13.0	4.0	23		0.5	45
17109	15.4	2.0 – 13.0	4.9	30		1.0	45

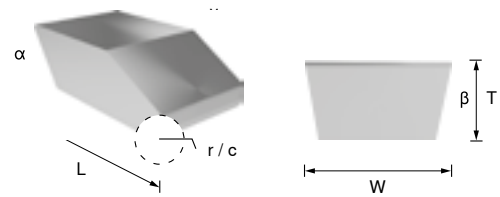
Straight design, top angle ( $\alpha \leq 10^\circ$ )

Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	r [mm]
51449	6.5	2.0 – 6.5	2.3	10	2	70	0.5
60163	8.0	2.0 – 6.5	2.3	10	5	70	0.8

Straight design, top angle ( $\alpha > 10^\circ$ )

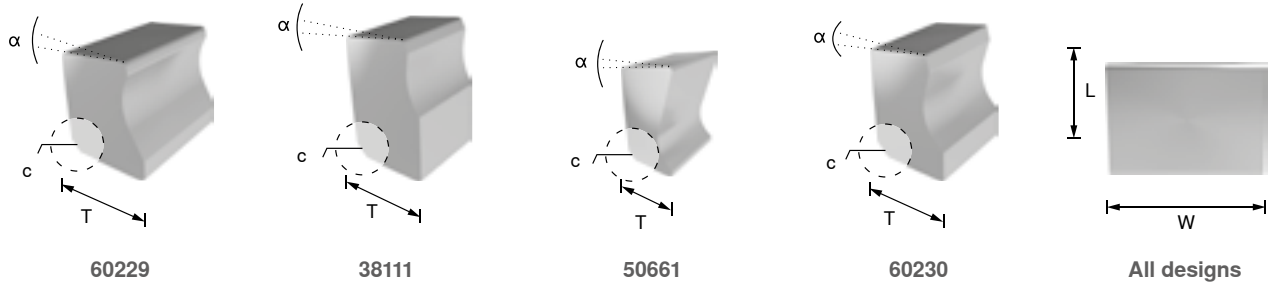
Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	r [mm]	c [mm]	Chamfer angle [°]
60357	4.0	2.0 – 3.0	1.5	20	0	60	0.5		
45752	4.5	2.0 – 3.5	1.5	20	0	60	0.5		
28601	5.0	2.0 – 3.5	1.5	28	0	45		0.5	45
44670	5.5	2.0 – 3.5	1.6	20	0	75		0.5	45
13651	6.0	2.0 – 3.5	1.8	20	4	63		0.5	45
25375	6.0	2.0 – 5.0	1.8	28	0	45		0.5	45
25374	6.0	2.0 – 5.0	2.0	28	0	45		0.5	45
47015	6.5	2.0 – 6.5	1.6	28	5	65	0.9		
16387	6.5	2.0 – 5.5	2.0	30	5	65	0.9		
31440	6.5	2.0 – 6.0	2.0	28	0	57	0.9		
31450	6.5	2.0 – 6.5	2.0	28	5	56	0.9		
51449	6.5	2.0 – 6.5	2.3	10	2	70	0.5		
11460	7.0	2.0 – 9.0	2.0	28	6	67	0.6		
29984	7.0	2.0 – 5.5	2.2	28	6	70	0.9		
44671	7.0	2.0 – 7.0	2.3	20	0	76		0.5	45
51849	7.0	2.0 – 8.5	2.5	25	0	56		0.5	45
15705	7.5	2.0 – 6.5	2.0	28	5	70	0.6		
44814	7.5	2.0 – 6.5	2.4	30	0	50		0.5	45
26014	7.5	2.0 – 12.5	2.5	28	5	70	1.0		



Straight design, top angle ( $\alpha > 10^\circ$ )

Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	r [mm]	c [mm]	Chamfer angle [°]
17037	8.0	2.0 – 8.5	2.3	28	5	70	0.8		
11963	8.0	2.0 – 10.0	2.5	28	5	70	0.8		
60122	8.0	2.0 – 8.5	2.5	29	5	64	0.9		
6071	8.0	2.0 – 8.0	3.0	25	0	45	0.6		
51786	8.0	2.0 – 6.5	3.4	30	0	65	0.8		
10975	8.5	2.0 – 8.5	2.5	28	5	70	0.8		
41884	8.5	2.0 – 8.5	3.2	30	3	45	0.8		
44246	8.5	2.0 – 7.5	3.2	30	3	60	0.8		
47784	8.5	2.0 – 6.0	3.5	25	0	65		0.5	45
24466	9.0	2.0 – 6.0	2.5	20	0	57		0.5	45
22974	9.0	2.0 – 6.0	2.7	28	5	45		0.5	45
25618	9.0	2.0 – 8.5	2.7	28	4	65	1.0		
24467	10.0	2.0 – 7.0	2.5	20	0	65		0.5	45
12154	10.0	2.0 – 8.0	2.8	30	6	70	0.8		
31591	10.0	2.0 – 10.0	3.0	15	0	72	0.5		
22180	10.5	2.0 – 7.0	2.3	28	5	72		0.5	45
11748	10.5	2.0 – 10.0	2.5	28	5	70	0.8		
12356	10.5	2.0 – 15.5	3.0	28	5	70	0.8		
51224	10.5	2.0 – 6.5	3.2	30	0	60	0.8		
26457	10.5	2.0 – 13.0	3.5	28	5	60	0.8		
51361	11.0	2.0 – 8.0	3.5	30	0	63		0.5	45
60888	11.0	2.0 – 8.0	4.0	28	5	60	0.8		
47938	11.5	2.0 – 6.5	3.0	28	4	72	0.8		
19975	12.0	2.0 – 12.5	3.5	30	10	45		0.5	45
10529	12.5	2.0 – 11.5	3.0	30	8	70	0.8		
46623	12.5	2.0 – 9.0	3.5	28	5	70	0.8		
24150	12.5	2.0 – 12.0	4.0	30	0	70	0.8		
38376	13.0	2.0 – 16.0	4.0	30	5	45	0.9		
44092	13.0	2.0 – 12.5	4.0	30	5	60	0.8		
18160	14.5	2.0 – 16.0	4.0	30	0	70	0.8		

### Net shape design

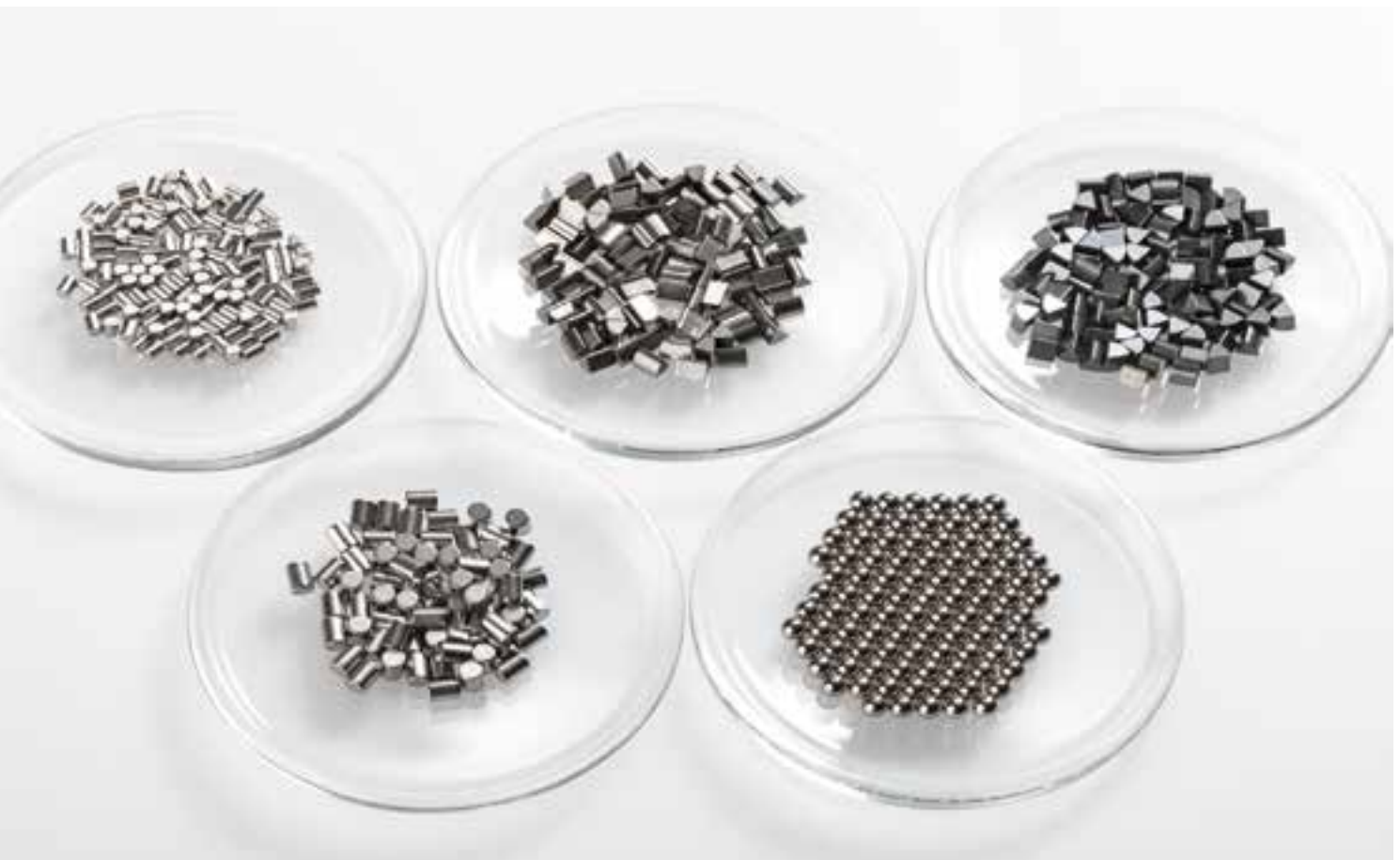


Type, description	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	c [mm]	Chamfer [°]
60229	3.00	2.0 – 5.0	2.50	9	0.4	45
38111	3.70	2.0 – 6.5	2.50	8	0.4	45
50661	4.32	2.0 – 5.5	2.70	8	0.4	45
60230	4.70	2.0 – 5.0	2.50	5	0.3	45

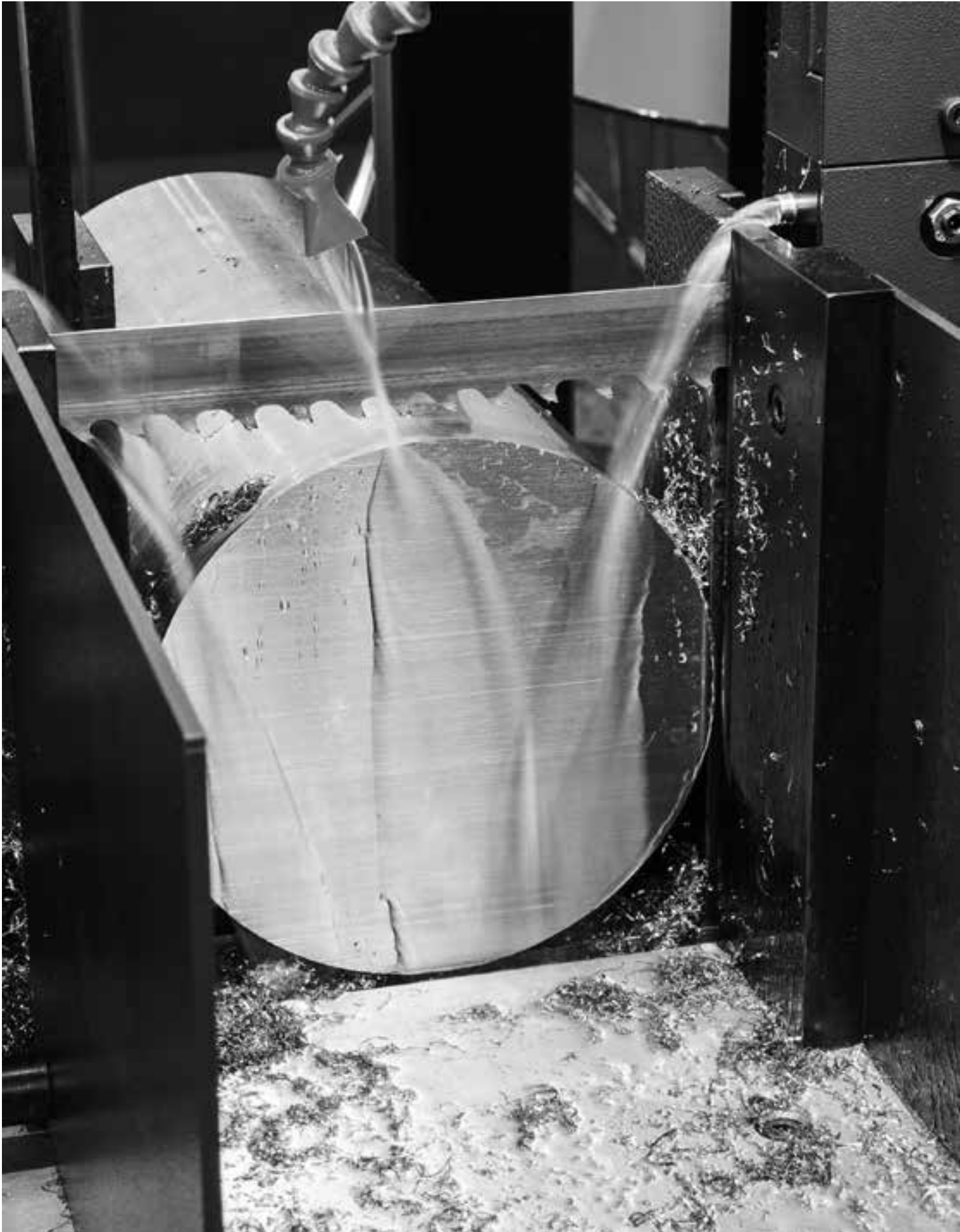


## Tips for band saws

We offer balls, cylinders and segments for the production of band saws. In addition to our standard product portfolio, we provide all specific designs on request.







## Grade recommendation

As each metal has its very own specific properties, we offer a wide variety of grades in the field of metal sawing. The table below will guide you in finding the right grade for your application.



Grade	Non-ferrous, aluminium	Cast iron	Abrasive material	Composite material	Steel	Stainless steels	Titanium	Nickel alloy
KCR10	••••	•••						
CTS12D	•••	••••	•••					
CTS15D	••	•••	••					
CTS18D		••		••••	••••	•••		
CTS22D					••		••••	•••
CTS24D							•••	••••
CTS30D							••	•••

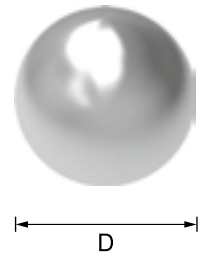
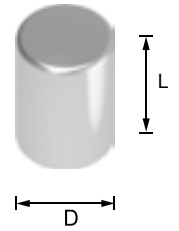


Grade	Binder	Grain size	Density [g/cm <sup>3</sup> ]	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
				[HV10]	[HRA]		
KCR10	4.0 % Co	fine	15.15	1780	92.8	10.1	2800
CTS12D	6.0 % Co	submicron	14.95	1800	92.9	8.8	3700
CTS15D	7.5 % Co	submicron	14.80	1740	92.6	9.5	3800
CTS18D	9.0 % Co	submicron	14.55	1610	91.9	11.0	3800
CTS22D	11.0 % Co	submicron	14.35	1520	91.2	12.0	3900
CTS24D	12.0 % Co	submicron	14.15	1480	90.9	12.5	4000
CTS30D	15.0 % Co	submicron	13.85	1435	90.5	13.5	4300

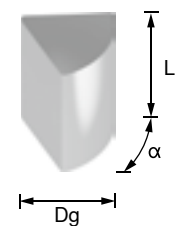
Please note: the information given here is for illustrative purposes only, and does not constitute either a specification or a representation.

**Ball ... CTBA**

Available only upon request

**Cylinder ... CTCY**

Diameter D [mm]	Diameter D [inch]	L [mm]	L [inch]
1.32	0.052	1.0 – 4.0	0.039 – 0.157
1.57	0.062	1.0 – 4.0	0.039 – 0.157
1.60	0.063	1.0 – 4.0	0.039 – 0.157
1.85	0.073	1.0 – 4.0	0.039 – 0.157
1.98	0.078	1.0 – 4.0	0.039 – 0.157
2.30	0.091	1.0 – 4.0	0.039 – 0.157
2.50	0.098	1.0 – 4.0	0.039 – 0.157
2.75	0.108	1.0 – 4.0	0.039 – 0.157

**Segment ... CTSG**

Diagonal Dg [mm]	Diagonal Dg [inch]	α [°]	L [mm]	L [inch]
2.05	0.081	65	1.0 – 4.0	0.039 – 0.157

# Notes

# Notes



# worldwide

## Operating globally for you – your distribution partner network

### Bosnia-Herzegovina

PROCEDO  
BIH-71 320 Vogošća-Sarajevo  
Nova industrijska zona bb  
T. + 387 (0)33 424 – 351  
E. info@procedo.ba

### Canada

H.M.T. Machine Tools Canada  
7, 19299 94th Avenue  
Surrey, B.C V4N 4E6  
T. +1-855-739-9988  
E.gordie@hmtcanada.ca  
www.hmtcanada.ca

### Chile

SNC SLIPNAXOS CHILE S.A  
San Miguel – Santiago  
Avenida Lo Ovalle 567-B  
T. +562 2511 0296  
E.snaxos@slipnaxos.cl  
www.slipnaxos.cl

### Ecuador

SUMIN SUMINISTROS  
INDUSTRIALES CIA. LTDA  
10101 Cuenca  
Benigno Malo y Pio Brvo 13-71  
T. +593 4 382711 386173  
www.sumin.com.ec/

### United Arab Emirates

HASSANI TRADING CO  
UAE-Dubai Investment Park  
P.O. Box 286  
T. +971 4899 444  
F. +971 5899 444  
E. hassani@hassani.ae

### Ireland

J.Jackson Tools  
IE-A63YC03-Kilcoole  
Lewna, Sea Road  
T. +353 1 2877 141  
E. info@jjacksontools.com

### Peru

VITEMAQ E.I.R.L  
LIMA12  
Residencial Monterrico – La Molina,  
Jr.Los Damascos 215  
T. +51 17 17 27 02  
E.info@vitemaq.com  
www.vitemaq.com

### Poland

Rodel  
PL-05-506 Magdalenka  
ul. Okrezna 34  
T. +48 22 757 7938  
T. +48 22 757 9774  
E. Ciurakowska@rodel.pl

### Romania

S.C. Metal Disc S.R.L  
ROU-077086 Fundeni  
Str.Doinei nr. 55  
T. +40 21 240 40 89  
E. office@metaldisc.ro  
www.metaldisc.ro

### Russia

CRI LLC  
M. Dimitri Alexandrov  
RUS-117449 MOSCOW  
Kar'er street 2A bld 1 – room 007  
T. +7 4952294972  
T. +7 49952294972

### South Africa

Technical + General Distribution  
ZAF-2194 Randburg  
93 Milner Road  
T. +27 118864122

### South America

Eurosierras S.A.S.  
COL-KRA 44A 31-112  
Medellin / Colombia  
T. +57 4322 9108  
E. info@eurosierras.com

### Ukraine

PE Mukiyevskaya  
UKR-03048 Kiev  
Pulyua street 3/ app 121  
T. +38 044 246 02 81  
E. elena\_mukiev@hotmail.com  
www.mukiyevska.com.ua

### United States

Grasche USA, Inc.  
US-28602 Hickory, NC  
240 Performance Dr, SE...  
T. +1 (828) 322-3253 x 109  
F. +1 (828) 322-6459  
E. sales@grasche.com  
www.grasche.com

### United States

Southeast Tool, Inc.  
T. +1 877-465-7012  
F. +1 866-945-9433  
E. router@southeasttool.com  
www.southeasttool.com

Headquarters

CERATIZIT S.A.  
LU-8232 Mamer  
**T.** +352 31 20 85-1  
**E.** info.ceratizit.com

[www.ceratizit.com](http://www.ceratizit.com)

Worldwide

CER ATIZIT Luxembourg S.à r.l.  
LU-8232 Mamer  
**T.** +352 31 20 85-1  
**E.** info@ceratizit.com

Brazil

CERATIZIT América Latina Ltda.  
BR-06453-002 Barueri, São Paulo  
**T.** +55 11 4133 2300  
**E.** info.americalatina@ceratizit.com

China

CB-CERATIZIT Xiamen  
69 Xingxi Road, Xinglin, Jimei,  
CN-361022 Xiamen (Jimei), China  
**T.** +86 592 666 1000  
**E.** sales@cbceratizit.com

India

CERATIZIT India Pvt. Ltd.  
IN-Bengaluru 560099  
**T.** +91 80 4043 1262  
**E.** ctindia.south@ceratizit.com

Italy

CERATIZIT Italia S.p.A.  
IT-22040 Alserio (CO)  
**T.** +39 031 6349 211  
**E.** info.italia@ceratizit.com

Netherlands

CERATIZIT Nederland B.V.  
NL-4707 AT Roosendaal  
**T.** +31 165 55 08 00  
**E.** info.nederland@ceratizit.com

Spain / Portugal

CERATIZIT Ibérica S.L.  
ES-28031 Madrid  
**T.** +34 91 351 0609  
**E.** info.iberica@ceratizit.com

Japan

CERATIZIT Japan Co.,Ltd.  
3-13-9 Mizuho, Suruga-ku,  
Shizuoka-shi, Shizuoka 421-0115  
**T.** +81-54-268-1060  
**E.** m.baba@ceratizit-j.co.jp