



# Your partner for wood machining

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

**Tooling the Future**

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



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## Wood machining

For wood machining, we offer a comprehensive range of finished and semi-finished products: rods, strips, planer blades, indexable knives, blanks and blanks for profiling. You can count on our in-depth knowledge of the market, resulting from many years of working with all kinds of applications. With a lot of our products, we have been the exclusive partner of market leaders and setters of quality standards for many years now.

We constantly develop and refine our portfolio of carbide grades to ensure the right choice for all kinds of materials and machining conditions, for example our proven KCR grades. We are happy to help you select the best grade for you, depending on your application, to make you even more successful in future.



## Grades for wood machining

### Chrome grades

Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR02+	2.0	nano	2250	95.0	7.5	2400
KCR05+	3.0	ultrafine	2160	94.5	7.8	2900
KCR06	3.0	submicron	1950	93.6	8.5	2300
KCR08	4.2	submicron	1920	93.4	8.7	2600
KCR10	4.0	fine	1780	92.8	10.1	2800
KCR18+	9.5	submicron	1590	91.7	10.8	3750

### Special grades

Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
CTOPP10	10.0	submicron	1570	91.6	10.0	3000
HC35	9.0	medium	1400	90.3	10.9	2800
HE40	20.0	ultrafine	1250	88.8	12.1	3500

## Indexable knives

We are constantly looking for new ways to make you even more productive and successful.

Our indexable knives have a worldwide reputation for high geometrical precision, resulting in an outstanding surface quality of the workpiece in a short space of time.

Always one step ahead: with our new coating for knives, we are the first to introduce a new and unique technology to the market which protects the cutting edge of the knife, thus crucially enhancing both tool life and cutting quality.

### Designation system

#### Indexable knives

	Product	Style	Length [mm]		Width [mm]		Thickness [mm]	Grade
Example	CTK	ST	50	X	12	X	1.5	KCR08

**K** Indexable knives      **ST** Standard



## KCR18+

### The latest member of our KCR family

Benefit from our Cr-Ni binder based KCR grades:

- ▲ Higher process reliability thanks to corrosion and oxidation resistance during cutting
- ▲ Higher performance potential thanks to the improved ratio of hardness to fracture toughness

### Properties

Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR18+	9.5	submicron	1590	91.7	10.8	3750

Our range of indexable knives has been specially developed for the production of window tools. Thanks to their excellent grinding quality our knives achieve both longer service life and an improved surface quality.

## Go ahead with CeraShield.

### Be a step ahead of your competitors

CeraShield is the latest innovation in the field of cutting technology from Toolmaker Solutions by CERATIZIT, providing best performance in both hardwood and softwood machining.

The unique grinding and coating process allows us to create a long-lasting cutting edge which practically rules out wear on the rake face.

With this application improvement in the production process, CeraShield supports more accurate price calculation and hence higher margins.

The longer tool life of CeraShield reduces the costs of your stock turnover as you can generate more profit while selling fewer goods.

In addition, you can order our latest technology from stock, allowing quicker access and reduced stock costs – innovation just in time!

## Let us convince your customers

Advantages		Benefits
Fewer changes necessary due to tool wear	→	Minimised downtime increases productivity
Consistent cutting quality	→	Little or no further processing needed
Improved wood quality	→	Cost savings
Less wear	→	Better life cycle assessment within production and reduced waste disposal costs
Compatible with existing tooling systems	→	No acquisition costs

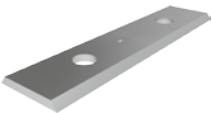
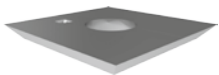
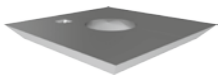




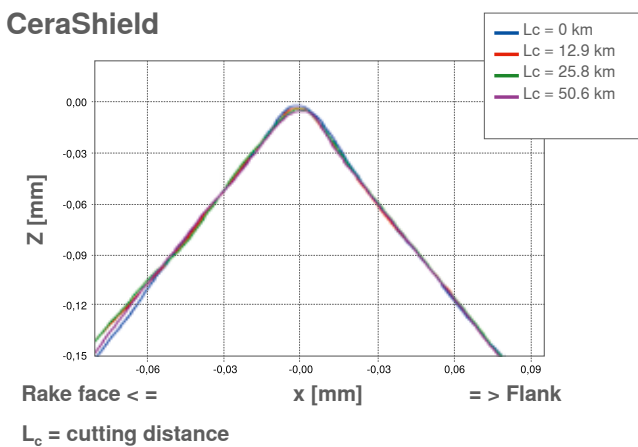
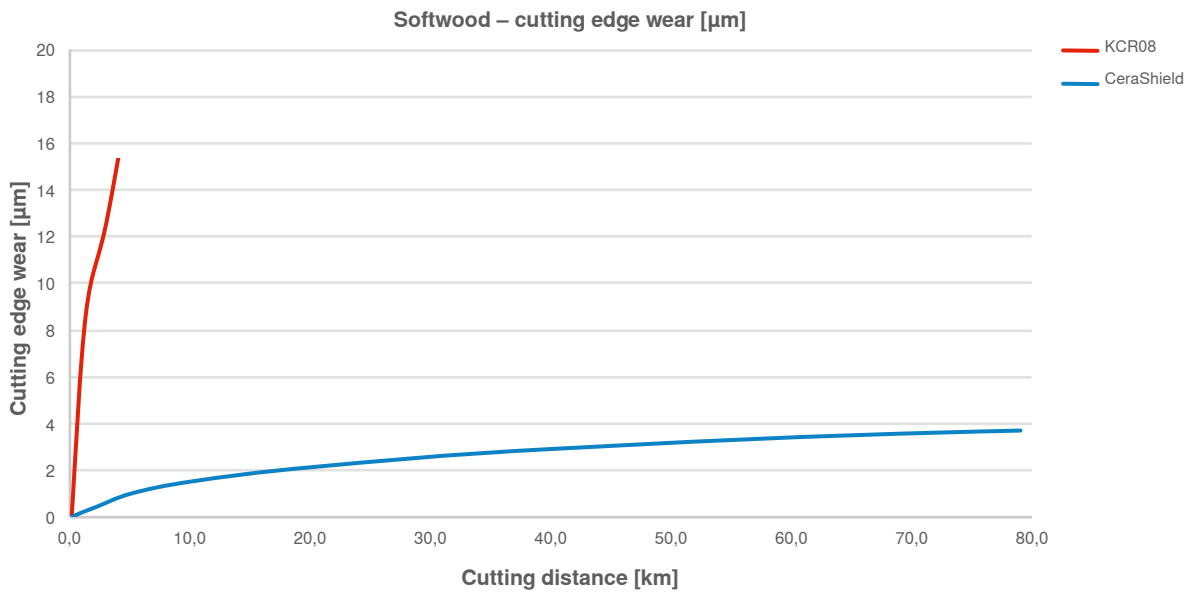
## The following types of CeraShield are available:

- ▲ Scorers in various dimensions (12\*12, 14\*14, 15\*15)
- ▲ Long knives of different lengths with 1 or 2 holes
- ▲ Long knives of different lengths with 4 cutting edges and 2 holes



Product overview		Material number
	Indexable knives with 2 cutting edges	CTK ST 15.0x12.0x1.5 CS1 12006172
		CTK ST 20.0x12.0x1.5 CS1 12006173
		CTK ST 30.0x12.0x1.5 CS1 12006175
		CTK ST 40.0x12.0x1.5 CS1 12006177
		CTK ST 50.0x12.0x1.5 CS1 12006178
	Indexable knives with 4 cutting edges	CTK FC 19.5x12.0x1.5 CS1 12006174
		CTK FC 29.5x12.0x1.5 CS1 12006176
		CTK FC 49.2x12.0x1.5 CS1 12006179
	Scorers with 4 cutting edges	CTK FC 12.0X12.0X1.5 CS1 12005682
		CTK SC 14.0X14.0X2.0 CS1 12146584
		CTK SC 15.0X15.0X2.5 R0.5 CS1 12146582

## CeraShield – more performance for softwood

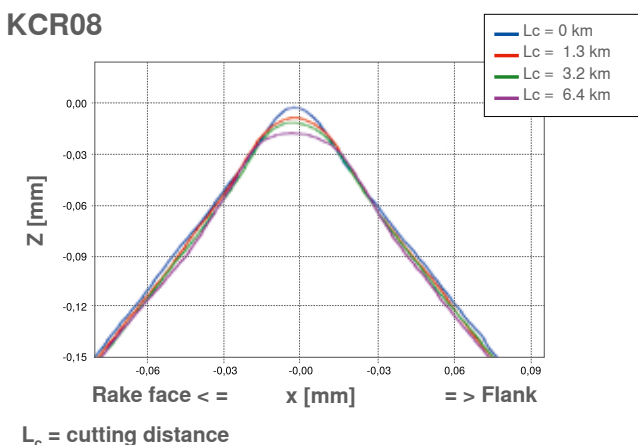


### See for yourself

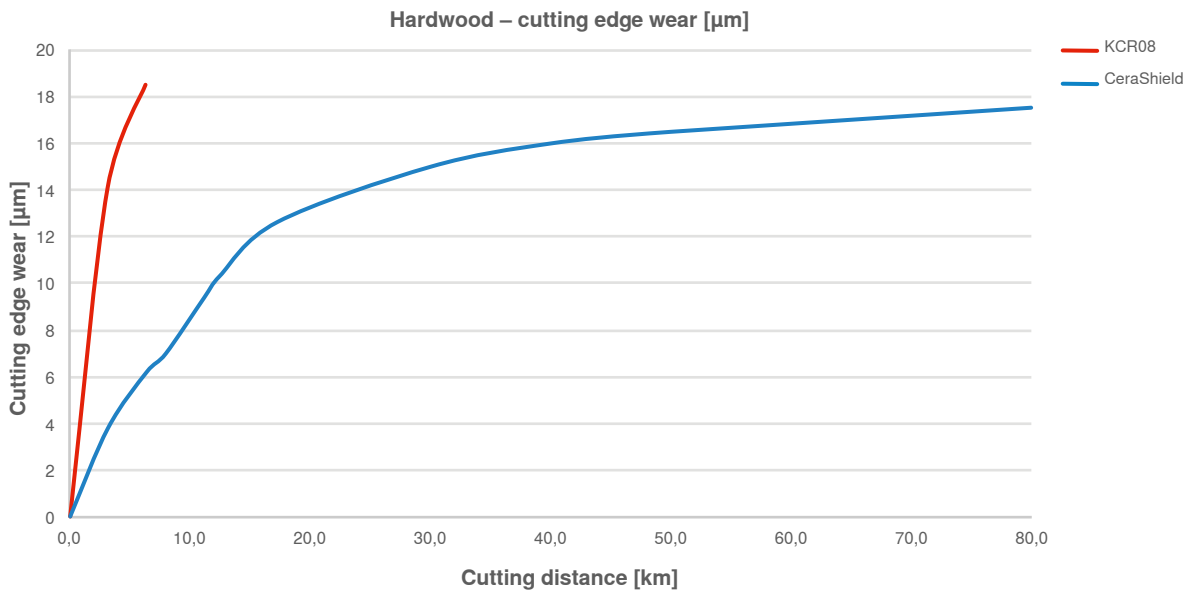
With CeraShield you can look forward to a clear increase in productivity in direct comparison with uncoated knives of grade KCR08.

Thanks to a special coating and grinding process you can benefit from a long-lasting cutting edge, which not only makes the machining of softwood easier but also offers a better cost-benefit ratio.

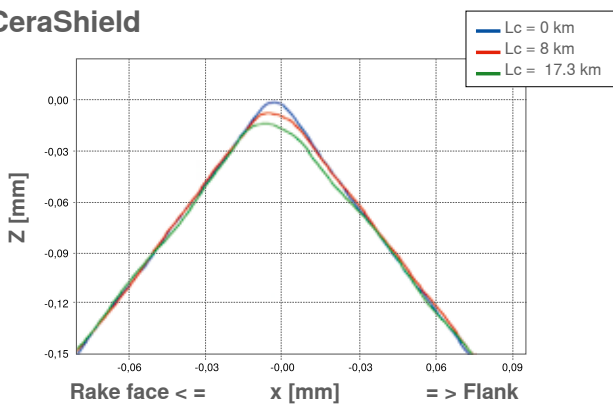
Count on us as the technology leader for wood machining!



## CeraShield – more performance for hardwood



### CeraShield



$L_c$  = cutting distance

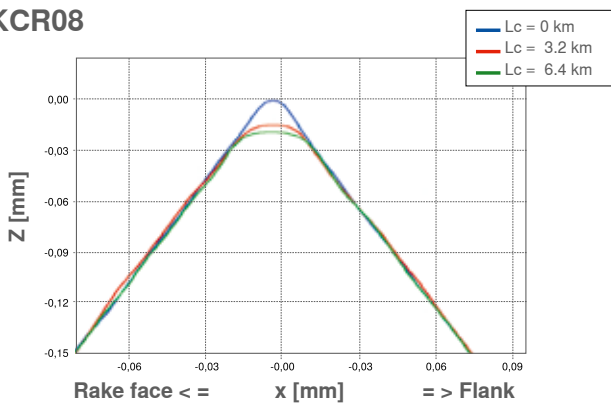
### Coating makes the difference

CeraShield not only reduces cutting edge wear, in the long run it also allows you to achieve a better quality of cut when machining hardwood.

Thanks to our recently developed coating process, you can look forward to a clear increase in productivity compared to uncoated knives in grade KCR08.

You can count on the innovation generator of the industry – Toolmaker Solutions by CERATIZIT.

### KCR08



$L_c$  = cutting distance

## Grade recommendation

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



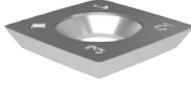
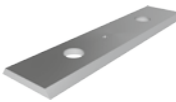
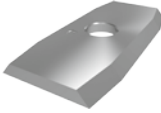

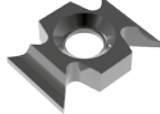

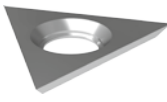
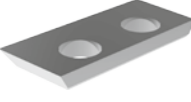

Grade	Hardwood	Softwood	Chipboard	MDF	HDF
CeraShield*	• • • • •	• • • • •			
KCR02+			• • • •	• • • •	• • • •
KCR08	• • • •	• • •	• • •	• • •	• • •
KCR18+	• • •	• • • •	• •	• •	• •
CTOPP10	• •	• • •	•	•	•
HE40		• • • •			




\* More information on CeraShield is available on page 8 – 11.



Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
CeraShield			CeraShield is a coating applied to our grade KCR08.			
KCR02+	2.0	nano	2250	95.0	7.5	2400
KCR08	4.2	submicron	1920	93.4	8.7	2600
KCR18+	9.5	submicron	1590	91.7	10.8	3750
CTOPP10	10.0	submicron	1570	91.6	10.0	3000
HE40	20.0	ultrafine	1250	88.8	12.1	3500

## Portfolio – overview

	Type, description	Most popular		Full range	
		Grade	page(s)	Grade	page(s)
	CTK SC	KCR08 KCR02+ CTOPP10	16	KCR18+ KCR08 KCR02+ CTOPP10	17
	CTK ST	KCR08 KCR02+ CTOPP10	16	KCR18+ KCR08 KCR02+ HE40 CTOPP10	19
	CTK FC	KCR08 KCR02+ CTOPP10	16	KCR18+ KCR08 KCR02+ CTOPP10	20
	CTK ST BO			KCR18+ KCR08	22
	CTK SK			KCR08	22
	CTK MK BCG			KCR08	24
	CTK CH			KCR08 CTOPP10	24
	CTK GR			KCR08 CTOPP10	25
	CTK SC 3CUT			CTOPP10	26
	CTK ISO			KCR08 KCR02+	27
	CTK PK			CTOPP10	28

	Type, description	Grade	Full range	page(s)
	CTK ST SH	KCR08 KCR18+		28
	CTK SC SH	KCR08		29
	CTK SC SH	KCR08		29

## CTK

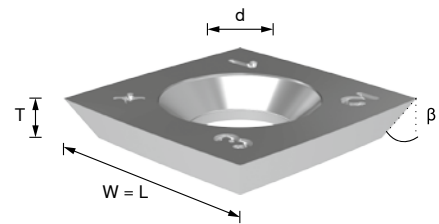
	Description	Grade	Material number
	CTK FC 12.0x12.0x1.5 35°	KCR08 KCR02+ CTOPP10	80360030 11956674 11820512
	CTK SC 14.0x14.0x2.0 30°	KCR08 KCR02+ CTOPP10	80359802 11956690 11742545
	CTK SC 15.0x15.0x2.5 R05 30°	KCR08 KCR02+	82022498 12006643
	CTK ST 20.0x12.0x1.5 35°	KCR08 KCR02+ CTOPP10	80358831 11956682 11791002
	CTK ST 30.0x12.0x1.5 35°	KCR08 KCR02+ CTOPP10	80358833 11938347 11742547
	CTK ST 50.0x12.0x1.5 35°	KCR08 KCR02+ CTOPP10	80358835 11938348 11742544
	CTK ST 80.0x13.0x2.2 35°	KCR08	80360069
	CTK FC 49.2x12.0x1.5 35°/20°	KCR08	80360089
	CTK FC 50.0x12.0x1.7 3H 35°/20°	KCR08	80358958

Note: For the complete programme, please see further info in the "full range" section.



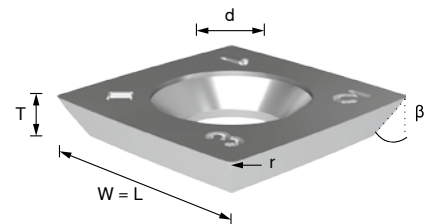
## Full range

### CTK SC



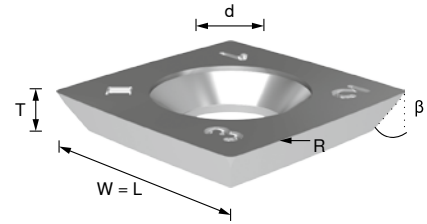
L [mm]	W [mm]	T [mm]	d [mm]	β [°]	Remark	KCR02+	KCR08	KCR18+	HE40	CTOPP10
10.5	10.5	1.5	4.0	35			11804575	12156411		12054627
13.4	13.4	1.5	6.4	30	no grade marking					12114133
13.6	13.6	2.0	6.4	45						12054629
14.0	14.0	1.2	8.5	30			11498131			12004928
14.0	14.0	1.7	8.5	30			12137477			12118225
14.0	14.0	2.0	6.4	30		11956690	80359802	12156413		11742545
14.3	14.3	2.5	6.4	35	no grade marking		82020648			
14.6	14.6	2.5	6.4	30			11444230			
15.0	15.0	2.5	6.2	30			11815708	12240592		11829045
15.0	15.0	2.5	6.4	37			11978167			
21.0	21.0	5.5	7.1	40	special shape with grooves					11962866
21.0	21.0	5.5	7.2	40					11718345	

### CTK SC R0.5



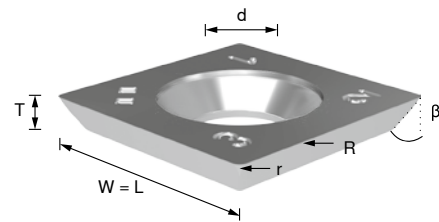
L [mm]	W [mm]	T [mm]	d [mm]	r [mm]	β [°]	KCR02+	KCR08
14.0	14.0	2.0	6.4	0.5	30		12112468
15.0	15.0	2.5	6.4	0.5	30	12006643	82022498
15.0	15.0	2.5	6.4	0.5	37		82022499

**CTK SC R**



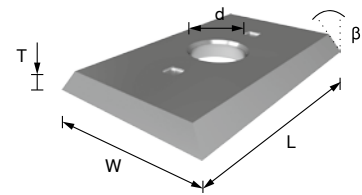
L [mm]	W [mm]	T [mm]	d [mm]	R [mm]	β [°]	Surface finish	KCR08	KCR18+	CTOPP10
15.0	15.0	2.5	6.3	95	30	ground			11778838
15.0	15.0	2.5	6.3	115	30	ground			11789902
15.0	15.0	2.5	6.3	150	30	ground			11789899
15.0	15.0	2.5	6.3	190	40	micropolish		12247474	
15.0	15.0	2.5	6.4	50	30	ground	82029610		11878098

**CTK SC R R0.5**



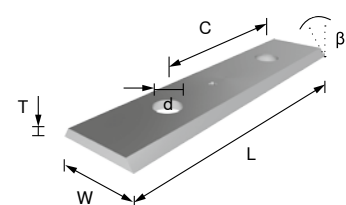
L [mm]	W [mm]	T [mm]	d [mm]	r [mm]	R [mm]	β [°]	KCR08	KCR18+	CTOPP10
13.8	13.8	2.5	6.3	0.5	150	30	12100185		12243347
15.0	15.0	2.5	6.3	0.5	50	30	11721820		11918428
15.0	15.0	2.5	6.3	0.5	115	30	82019711		11827617
15.0	15.0	2.5	6.3	0.5	150	30	12112633		11827613
15.0	15.0	2.5	6.3	0.5	115	30		12240594	
15.0	15.0	2.5	6.3	0.5	50	30		12527096	

## CTK ST 1 hole



L [mm]	W [mm]	T [mm]	d [mm]	β [°]	Surface finish	KCR02+	KCR08	KCR18+	HE40	CTOPP10
7.5	12.0	1.5	4.1	35	ground		80360013			
7.5	12.0	1.5	4.1	45	ground			12156425		
7.6	12.0	1.5	4.1	35	ground		12142499			
9.6	12.0	1.5	4.1	35	ground					11791000
9.6	12.0	1.5	4.1	45	micropolish			12156424		
15.0	12.0	1.5	4.1	35	ground	11956726	80360018			11791001
15.0	12.0	1.5	4.1	45	ground			12156421		
15.0	12.0	1.5	4.1	45	micropolish			12156423	80359045	
15.7	12.0	1.5	4.1	35	ground		80360019			
17.0	12.0	1.5	4.1	35	ground		80360020			
20.0	12.0	1.5	4.1	35	ground	11956682	80358831			11791002
20.0	12.0	1.5	4.1	45	ground			12156419		12054631
20.0	12.0	1.5	4.1	45	micropolish			12156420	80357973	
24.7	12.0	1.5	4.1	35	ground		80360023			
24.7	12.0	1.5	4.1	45	ground			12156417		

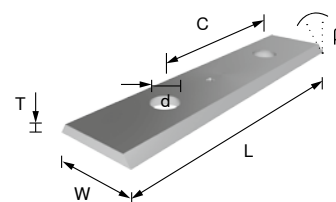
## CTK ST 2 holes



L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	Surface finish	KCR02+	KCR08	KCR18+	HE40	CTOPP10
24.7	12.0	1.5	14	4.1	35	ground		80360024			
24.7	12.0	1.5	14	4.1	45	ground		11503809			
30.0	12.0	1.5	14	4.1	35	ground	11938347	80358833	12170551		11742547
30.0	12.0	1.5	14	4.1	45	ground			12150696		12002500
30.0	12.0	1.5	14	4.1	45	micropolish			12156414	80357974	

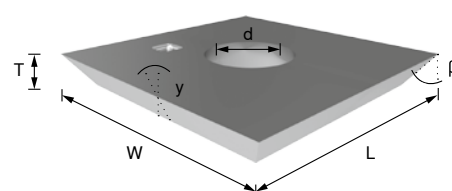


## CTK ST 2 holes



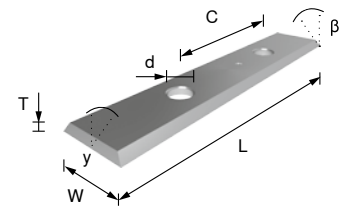
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	Surface finish	KCR02+	KCR08	KCR18+	HE40	CTOPP10
30.0	12.0	2.5	14	4.1	35	ground		12054645			
40.0	12.0	1.5	26	4.1	35	ground	11956684	80360025			11791003
40.0	12.0	1.5	26	4.1	45	ground			12156629		
40.0	12.0	1.5	26	4.1	45	micropolish			12156630	80359046	12054635
50.0	12.0	1.5	26	4.1	35	ground	11938348	80358835			11742544
50.0	12.0	1.5	26	4.1	45	ground			12150685		
50.0	12.0	1.5	26	4.1	45	micropolish			12121293	80357975	12054640
60.0	12.0	1.5	26	4.1	35	ground	11956687	80360026			11791004
60.0	12.0	1.5	26	4.1	45	micropolish			12156628	80359047	
60.0	12.0	1.5	26	4.1	45	ground			12156627		12054641
80.0	13.0	2.2	60	4.1	35	ground		80360069			
80.0	13.0	2.2	60	4.1	45	micropolish			12156620	80359048	12054643
100.0	13.0	2.2	60	4.1	35	ground		80360084			
120.0	13.0	2.2	60	4.1	35	ground		80360085			

## CTK FC 1 hole



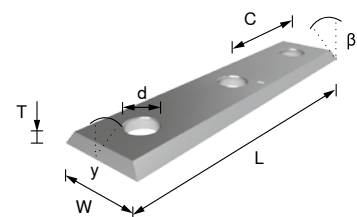
L [mm]	W [mm]	T [mm]	d [mm]	β [°]	γ [°]	Surface finish	KCR02+	KCR08	KCR18+	CTOPP10
9.0	12.0	1.5	4.1	35	20	ground		12156617		
10.5	10.5	1.5	4.1	35	35	ground		80360027		
12.0	12.0	1.5	4.1	35	35	ground	11956674	80360030		11820512
12.0	12.0	1.5	4.1	45	45	ground			12156618	
12.0	12.0	1.5	4.1	45	45	micropolish			12156740	
17.0	17.0	2.0	4.1	35	35	ground		80360028		
19.0	19.0	2.0	4.1	35	35	ground		80360029		
19.5	12.0	1.5	4.1	35	20	ground		12089523		

## CTK FC 2 holes



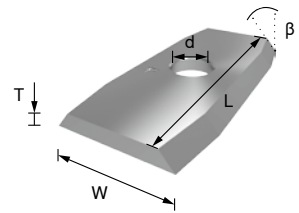
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	γ [°]	Surface finish	KCR02+	KCR08	CTOPP10
29.5	9.0	1.5	14	4.1	35	20	ground		80360081	
29.5	9.0	1.5	14	4.1	35	20	ground	12161430		
29.5	12.0	1.5	14	4.1	35	20	ground	12054381	80360082	11812696
39.5	12.0	1.5	26	4.1	35	20	ground		12048478	
39.5	9.0	1.5	14	4.1	35	20	ground		12054605	
49.2	9.0	1.5	26	4.1	35	20	ground	12115072	80360083	
49.2	12.0	1.5	26	4.1	35	20	ground	12125307	80360089	
49.5	9.0	1.5	26	4.1	35	20	ground		12339542	
59.2	12.0	1.5	26	4.1	35	20	ground		12028637	

## CTK FC 3 holes



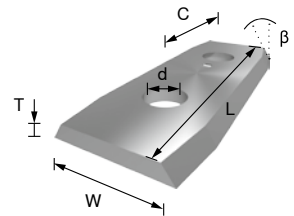
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	γ [°]	Surface finish	KCR02+	KCR08
50.0	12.0	1.7	18.5	4.1	35	20	ground	12098694	80358958

## CTK ST BO 1 hole



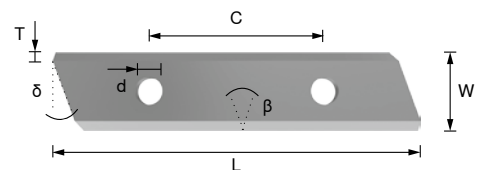
L [mm]	W [mm]	T [mm]	d [mm]	β [°]	KCR08	KCR18+
20.0	12.0	1.5	4.1	35	12384545	12156743
24.0	12.0	1.5	4.1	40	11952447	
24.7	12.0	1.5	4.1	40	12145464	

## CTK ST BO 2 holes



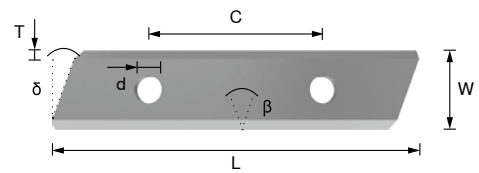
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	KCR08
30.0	12.0	1.5	14	4.1	35	12071624

## CTK SK LE



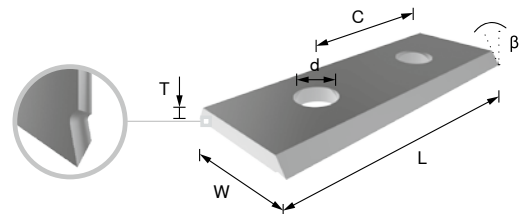
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	β [°]	δ [°]	KCR08
28.3	12.0	1.5	14	4.1	35	5	12201038
29.5	12.0	1.5	14	4.1	35	5	80360077
49.5	12.0	1.5	26	4.1	35	5	80360079
48.3	12.0	1.5	26	4.1	35	5	12201040

## CTK SK RI



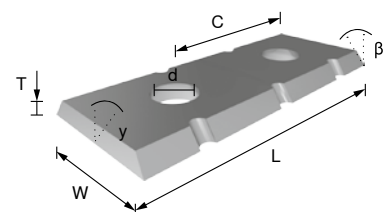
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	$\beta$ [°]	$\delta$ [°]	KCR08
29.5	12.0	1.5	14	4.1	35	5	80360078
49.5	12.0	1.5	26	4.1	35	5	80360080

## CTK ST CB



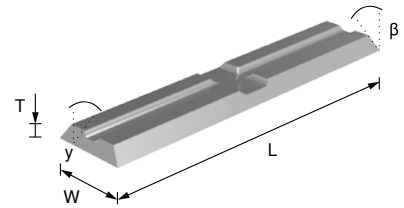
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	$\beta$ [°]	HE40
20.0	12.0	1.5	0	4.1	35	80357984
30.0	12.0	1.5	14	4.1	35	80357985
50.0	12.0	1.5	26	4.1	35	80357986

## CTK FC CB



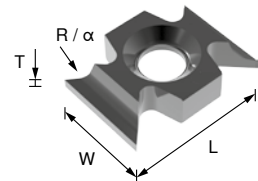
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	$\beta$ [°]	$\gamma$ [°]	KCR08
18.5	12.0	1.5	0	4.1	35	10	11506263
28.5	12.0	1.5	14	4.1	35	10	11506260

## CTK MK BCG



L [mm]	W [mm]	T [mm]	β [°]	γ [°]	KCR08
20.0	4.1	1.1	35	20	11996997
20.0	5.5	1.1	35	20	11998682
25.0	5.5	1.1	35	20	11996996
30.0	5.5	1.1	35	20	11998684
40.0	5.5	1.1	35	20	11998685
50.0	5.5	1.1	35	20	11998686

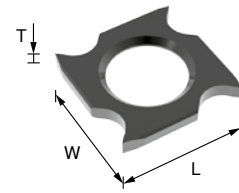
## CTK CH



L [mm]	W [mm]	T [mm]	R [mm]	α [°]	KCR08	CTOPP10
22.0	16.0	5.0		45	11498133	11921629
22.0	16.0	5.0	1.0		12003893	11921631
22.0	16.0	5.0	1.5		11844764	11921633
22.0	16.0	5.0	2.0		11716752	11921635
22.0	16.0	5.0	2.5		11716750	11921636
22.0	16.0	5.0	3.0		11498136	11921638
22.0	16.0	5.0	5.0		12003894	11921640

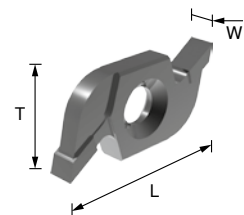


## CTK GR type 1



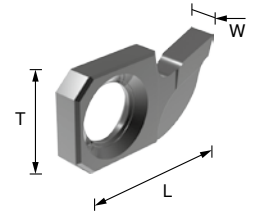
L [mm]	W [mm]	T [mm]	KCR08
14.00	14.00	2.00	12120335
14.00	14.00	2.50	12131506
14.00	14.00	3.00	12114136
18.00	18.00	1.95	11773916
18.00	18.00	2.50	11621998
18.00	18.00	2.95	12096095
18.00	18.00	3.70	11621999
18.00	18.00	4.00	12054594

## CTK GR type 2



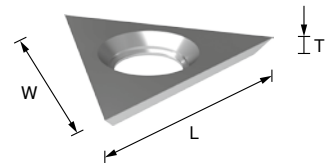
L [mm]	W [mm]	T [mm]	CTOPP10
34.0	16.0	3.2	11921649
34.0	16.0	4.0	11921650
34.0	16.0	5.0	11921651

**CTK GR type 3**



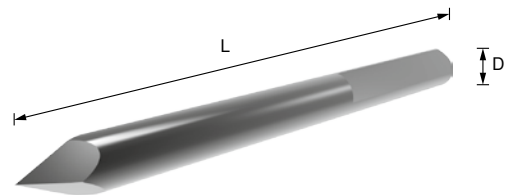
L [mm]	W [mm]	T [mm]	CTOPP10	
24.5	13.0	3.0	11921643	
24.5	13.0	4.0	11921646	
24.5	13.0	5.0	11921648	

**CTK SC 3CUT**



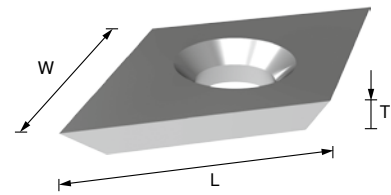
L [mm]	W [mm]	T [mm]	KCR08	KCR18+
22.0	19.5	2.0	12099425	12302609

**CTK CP**



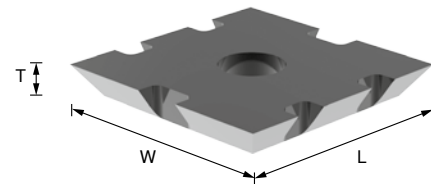
L [mm]	D [mm]	KCR18+
33.5	3.0	12156749

## CTK SC RHO



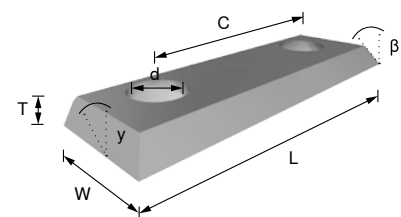
L [mm]	W [mm]	T [mm]	KCR08
14.0	14.0	2.0	12054654

## CTK FC CB



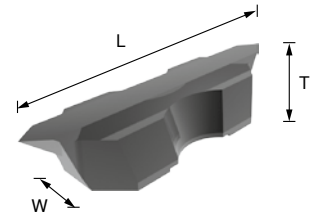
L [mm]	W [mm]	T [mm]	KCR18+
15.0	15.0	2.0	12156746

## CTK ISO



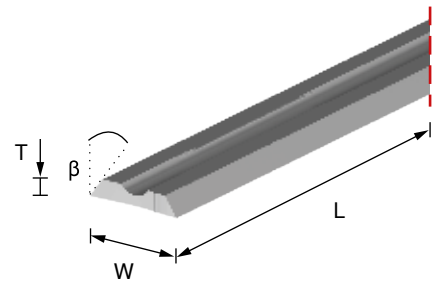
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	$\beta$ [°]	$\gamma$ [°]	Surface finish	KCR02+	KCR08
16.0	7.0	1.5	7	3.4	35	30	ground		12004870
23.0	7.0	1.5	14	3.4	35	30	ground		12004871
28.0	7.0	1.5	14	3.4	35	30	ground		12004877
29.5	7.00	1.5	16	3.4	35	25	ground	12152608	

**CTK SC**



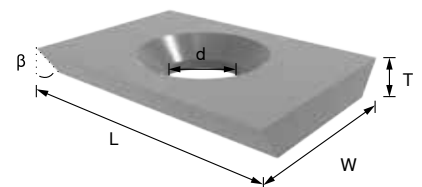
L [mm]	W [mm]	T [mm]	KCR08	KCR18+	CTOPP10
18.0	5.7	3.5	11670721		11820354
18.0	5.7	3.5		12281790	

**CTK PK**



L [mm]	W [mm]	T [mm]	β [°]	CTOPP10
56.0	5.5	1.1	35	12131249
75.5	5.5	1.1	35	11871695
78.0	5.5	1.1	35	12118371
80.5	5.9	1.2	40	11871691
82.0	5.5	1.1	35	11801133
92.0	5.5	1.2	35	12280863
102.0	5.5	1.1	35	12142972

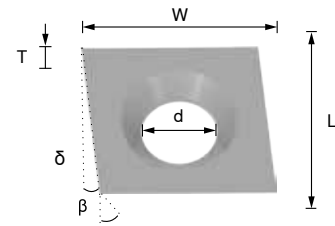
**CTK ST SH**



L [mm]	W [mm]	T [mm]	d [mm]	β [°]	Surface finish	KCR08	KCR18+
20.0	14.3	2.5	6.4	35	ground	12131236	12429863

**CTK SC SH**

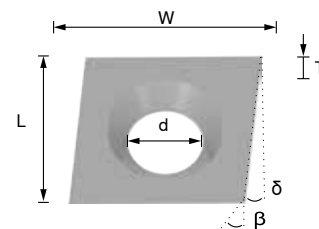
left



L [mm]	W [mm]	T [mm]	d [mm]	β [°]	δ [°]	Surface finish	KCR08
15.0	14.3	2.5	6.4	35	6	ground	12217264

**CTK SC SH**

right



L [mm]	W [mm]	T [mm]	d [mm]	β [°]	δ [°]	Surface finish	KCR08
15.0	14.3	2.5	6.4	35	6	ground	12217261

## Planer blades

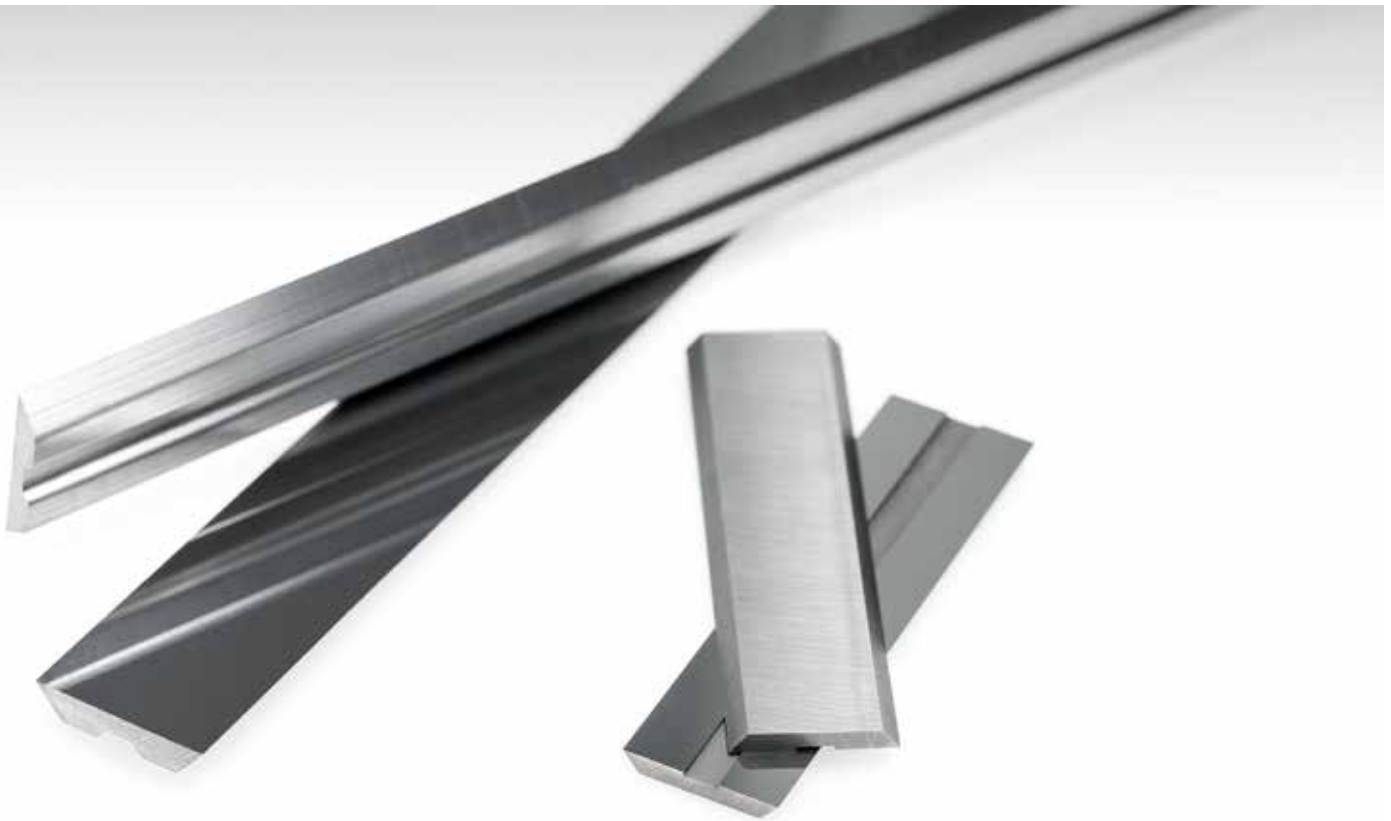
Planer blades with specially designed inlays made of carbide significantly reduce the weight of the finished tool. We have shortened the presentation of the product tables by only indicating the available ranges to provide a better overview of the great variety of our planer blades.

### Designation system

#### Planer blades

	Product	Style	Length		Width		Thickness	Grade
Example	CTK	CL	80.0	X	16.0	X	3.0	KCR18+

**K** Indexable knives    **CL** Centrolock



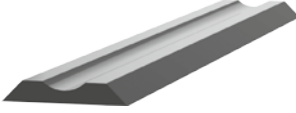
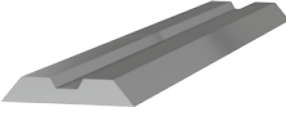
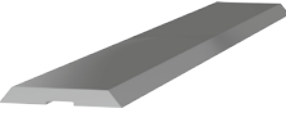
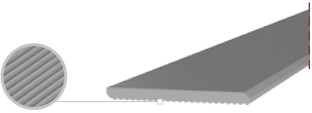
## Grade recommendation

We recommend the KCR18+ grade, which is the best choice for the application below.



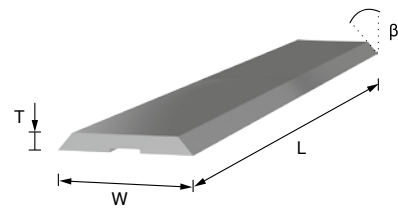
Grade	Hardwood	Softwood	Chipboard	MDF	HDF
KCR18+	• • •	• • •	• •	• •	• •

## Portfolio – overview

	Type, description	Most popular		Full range	
		Grade	page(s)	Grade	page(s)
	CTK TM (TERMINUS)	KCR18+	34	KCR18+	35
	CTK CL (CENTROLOCK)	KCR18+	33	KCR18+	35
	CTK BZ (BULLDOZER)	KCR18+	33	KCR18+	36
	CTE PAC			KCR18+	36

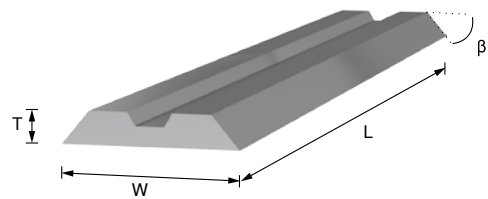


## CTK BZ (BULLDOZER)



L [mm]	W [mm]	T [mm]	β [°]	KCR18+
100	13.6	1.8	40	•
120	13.6	1.8	40	•
130	13.6	1.8	40	•
150	13.6	1.8	40	•
180	13.6	1.8	40	•
230	13.6	1.8	40	•
240	13.6	1.8	40	•

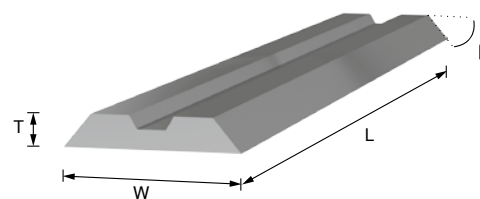
## CTK CL (CENTROLOCK)



L [mm]	W [mm]	T [mm]	β [°]	KCR18+
60	16.0	3.0	50	•
80	16.0	3.0	50	•
100	16.0	3.0	50	•
130	16.0	3.0	50	•
150	16.0	3.0	50	•
170	16.0	3.0	50	•
190	16.0	3.0	50	•
190	16.0	3.0	50	•
210	16.0	3.0	50	•
230	16.0	3.0	50	•
240	16.0	3.0	50	•
250	16.0	3.0	50	•

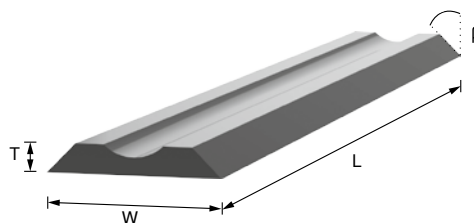
Note: For the complete programme, please see further info in the "full range" section.

## CTK CL (CENTROLOCK)



L [mm]	W [mm]	T [mm]	$\beta$ [°]	KCR18+
270	16.0	3.0	50	•
310	16.0	3.0	50	•

## CTK TM (TERMINUS)



L [mm]	W [mm]	T [mm]	$\beta$ [°]	KCR18+
100	14.1	2.56	40	•
130	14.1	2.56	40	•
150	14.1	2.56	40	•
180	14.1	2.56	40	•
230	14.1	2.56	40	•
650	14.1	2.56	40	•

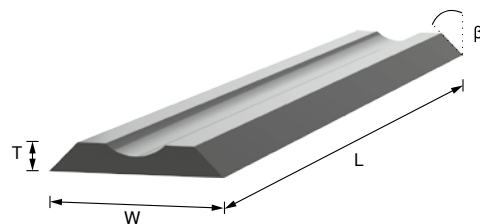
Note: For the complete programme, please see further info in the "full range" section.

## Full range

### CTK TM (TERMINUS)

KCR18+

W	T	$\beta$
14.10 mm	2.56 mm	40°

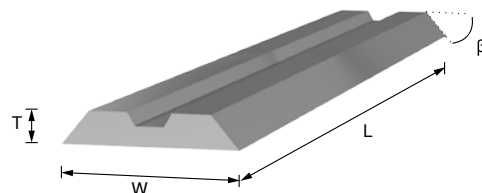


Range [mm]	Length [mm]										
$\geq 0$	80										
$\geq 100$	100	110	120	130		150	160	170	180	190	
$\geq 200$	200	210	220	230	240	250	260	270	280		
$\geq 300$	300	310				350	360				
$\geq 400$	400	410	420	430		450			480		
$\geq 510$		510	520	530							
$\geq 610$		610	620	630	640	650					

### CTK CL (CENTROLOCK)

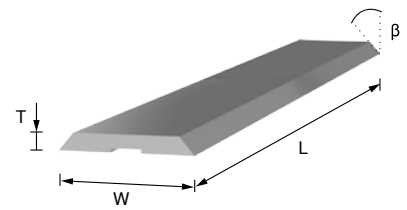
KCR18+

W	T	$\beta$
16.00 mm	3.00 mm	50°



Range [mm]	Length [mm]										
< 100	60 80										
$\geq 100$	100	110	115	120	130		150	160	170	180	190
$\geq 210$		210			230	240		260	270		
$\geq 300$	300	310						360			
$\geq 460$								460			

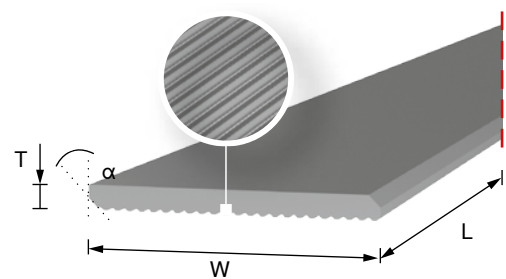
## CTK BZ (BULLDOZER)



L [mm]	W [mm]	T [mm]	β [°]	KCR18+
100	13.6	1.8	40	•
120	13.6	1.8	40	•
130	13.6	1.8	40	•
150	13.6	1.8	40	•
160	13.6	1.8	40	•
180	13.6	1.8	40	•
190	13.6	1.8	40	•
200	13.6	1.8	40	•
210	13.6	1.8	40	•
230	13.6	1.8	40	•
240	13.6	1.8	40	•
245	13.6	1.8	40	•
265	13.6	1.8	40	•

## CTE PAC

KCR18+

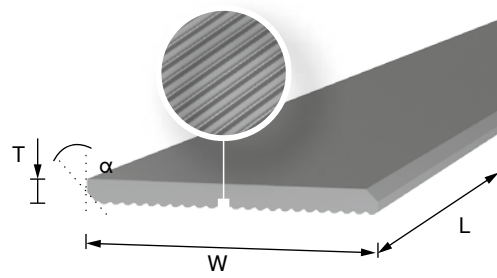


L [mm]	W 38 mm	W 50 mm	W 60 mm	T [mm]	α [°]
40	•	•	•	3.18	45
50	•	•	•	3.18	45
60	•	•	•	3.18	45
70	•	•	•	3.18	45
80	•	•	•	3.18	45
90	•	•	•	3.18	45



**CTE PAC**

KCR18+



L [mm]	W 38 mm	W 50 mm	W 60 mm	T [mm]	α [°]
100	•	•	•	3.18	45
110	•	•	•	3.18	45
120	•	•	•	3.18	45
130	•	•	•	3.18	45
150	•	•	•	3.18	45
170	•	•	•	3.18	45
180	•	•	•	3.18	45
200	•	•	•	3.18	45
210	•	•	•	3.18	45
230	•	•	•	3.18	45
240	•	•	•	3.18	45
260	•	•	•	3.18	45
310	•	•	•	3.18	45
650	•	•	•	3.18	45

## Profiling blanks

Our customers appreciate the premium quality and long tool life of our blanks for profiling. We have been the exclusive supplier and development partner to market leaders in the tool manufacturing industry for many decades. Whether you are looking for a standard product from stock or a customised solution, you can always count on us as your premium partner for profiling blanks.

### Designation system

#### Profiling blanks

	Product	Style	Holes / Chamfer [mm]	Length [mm]		Width [mm]		Thickness [mm]	Grade
Example	CTBL	ST	20	20.0	X	25.5	X	2.0	KCR08

**BL** Profiling blanks

**ST** Standard

**2** Holes

**0** Chamfer





## Grade recommendation

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



Grade	Hardwood	Softwood	Chipboard	MDF	HDF
KCR02+			••••	••••	••••
KCR08	••••	••	•••	•••	•••
CTOPP10	••	•••	•	•	•
HE40		••••			



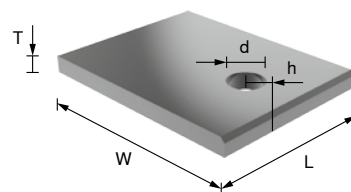


Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR02+	2.0	nano	2250	95.0	7.5	2400
KCR08	4.2	submicron	1920	93.4	8.7	2600
CTOPP10	10.0	submicron	1570	91.6	10.0	3000
HE40	12.0	ultrafine	1330	89.7	12.0	3000

## Portfolio – overview

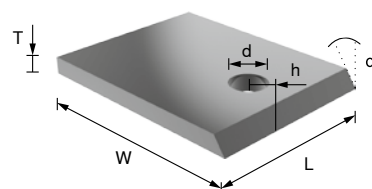
	Type, description	Most popular		Full range	
		Grade	page(s)	Grade	page(s)
	CTBL ST00			KCR08 CTOPP10	47
	CTBL ST10, CTBL ST11, CTBL ST12	KCR08	43	KCR08 HE40	49
	CTBL ST20, CTBL ST21, CTBL ST22	KCR08	44	KCR08 HE40	52
	CTBL MP10, CTBL MP11, CTBL MP20, CTBL MP21			KCR08	55
	CTBL SP20	KCR08	45	KCR08	59
	CTBL RV10, CTBL RV20, CTBL RV22			KCR08	60
	CTBL CH10, CTBL CH20			KCR08	62
	CTBL GR10, CTBL GR20			KCR08	63
	CTBL MC00			KCR08	65
	CTBL NN10, CTBL NN20			KCR08 HE40	67
	CTBL IT10, CTBL IT11, CTBL IT20, CTBL IT21			KCR08	69

## CTBL ST10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
15.0	20.5	2.0	6.5	4.2	11342117
15.0	25.5	2.0	6.5	4.2	11342115
20.0	20.5	2.0	6.5	4.2	80301010
20.0	25.5	2.0	6.5	4.2	80301011
20.0	30.5	2.0	6.5	4.2	80301012
25.0	25.5	2.0	6.5	4.2	80301015
25.0	30.5	2.0	6.5	4.2	80301016
25.0	35.5	2.0	6.5	4.2	80301017
30.0	20.5	2.0	6.5	4.2	80301018
30.0	25.5	2.0	6.5	4.2	80301019
30.0	30.5	2.0	6.5	4.2	80301020
30.0	35.5	2.0	6.5	4.2	80332963
35.0	30.5	2.0	6.5	4.2	80301021

## CTBL ST11

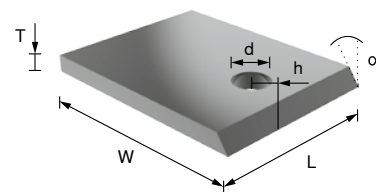


L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
15.0	20.5	2.0	6.3	4.2	35	80301048
15.0	25.5	2.0	6.3	4.2	35	80301049
20.0	20.5	2.0	6.3	4.2	35	80301051
20.0	25.5	2.0	6.3	4.2	35	80301052
20.0	30.5	2.0	6.3	4.2	35	80301053
25.0	25.5	2.0	6.3	4.2	35	80301056



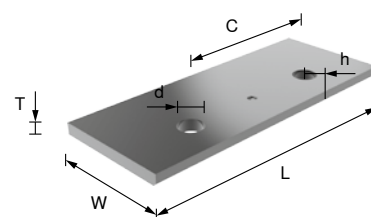
Note: For the complete programme, please see further info in the "full range" section.

## CTBL ST11



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
25.0	30.5	2.0	6.3	4.2	35	80301057
25.0	35.5	2.0	6.3	4.2	35	80301058
30.0	20.5	2.0	6.3	4.2	35	80301059
30.0	25.5	2.0	6.3	4.2	35	80301060
30.0	30.5	2.0	6.3	4.2	35	80301061
30.0	35.5	2.0	6.3	4.2	35	80301062
35.0	30.5	2.0	6.3	4.2	35	80301066

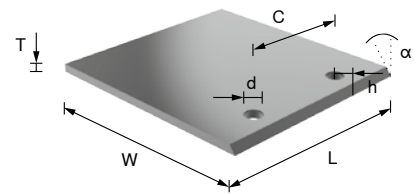
## CTBL ST20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
30.0	20.5	2.0	14	6.5	4.2	80301022
30.0	25.5	2.0	14	6.5	4.2	80301023
30.0	30.5	2.0	14	6.5	4.2	80301025
30.0	35.5	2.0	14	6.5	4.2	80301027
40.0	25.5	2.0	26	6.5	4.2	80301032
40.0	30.5	2.0	26	6.5	4.2	80301033
50.0	25.5	2.0	26	6.5	4.2	80301037
50.0	30.5	2.0	26	6.5	4.2	80301038
60.0	25.5	2.0	26	6.5	4.2	11356817
60.0	35.5	2.0	26	6.5	4.2	80301042
60.0	30.5	2.0	26	6.5	4.2	11353637
80.0	25.5	2.0	60	6.5	4.2	80301045

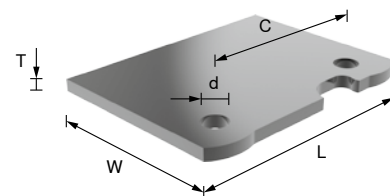
Note: For the complete programme, please see further info in the "full range" section.

## CTBL ST21



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	α [°]	KCR08
30.0	25.5	2.0	14	6.3	4.2	35	80301070
30.0	20.5	2.0	14	6.3	4.2	35	80301069
30.0	30.5	2.0	14	6.3	4.2	35	80301071
30.0	35.5	2.0	14	6.3	4.2	35	80301072
35.0	30.5	2.0	14	6.3	4.2	35	80301074
40.0	25.5	2.0	26	6.3	4.2	35	80301077
40.0	30.5	2.0	26	6.3	4.2	35	80301078
50.0	25.5	2.0	26	6.3	4.2	35	80301082
50.0	30.5	2.0	26	6.3	4.2	35	80301083
60.0	25.5	2.0	26	6.3	4.2	35	80301086
60.0	30.5	2.0	26	6.3	4.2	35	80301087
60.0	35.5	2.0	26	6.3	4.2	35	80301088

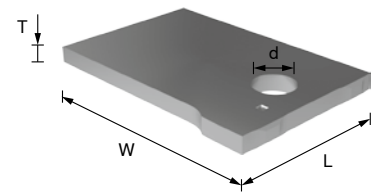
## CTBL SP20



L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	KCR08
40.6	28.2	1.5	28	4.0	80301115
40.6	40.6	2.0	28	5.0	82002869
60.6	45.6	2.0	45	5.0	80301118
60.8	30.2	1.5	48	4.0	80301117

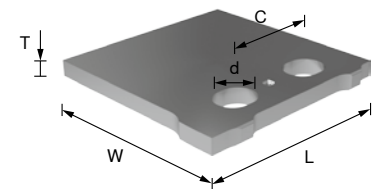
Note: For the complete programme, please see further info in the "full range" section.

## CTBL NN10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
15.5	25.5	2.0	5.9	5.0	82002873

## CTBL NN20

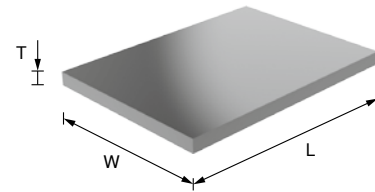


L [mm]	W [mm]	T [mm]	h [mm]	C [mm]	d [mm]	KCR08	HE40
30.2	25.5	2.0	5.9	13.8	5.0	82002889	80358235
30.2	30.4	2.0	5.9	13.8	5.0	82002890	80358236
32.2	22.8	2.0	5.9	13.8	5.0	82002891	
32.2	35.4	2.0	5.9	13.8	5.0	82002892	
32.8	47.2	2.0	5.9	13.0	5.0	82002893	
35.2	26.0	2.0	5.9	13.0	5.0	82002894	
40.1	20.9	2.0	5.9	25.5	5.0	82002895	80358241
40.1	30.4	2.0	5.9	25.5	5.0	82002896	80358242
40.8	36.0	2.0	5.9	25.5	5.0	82002897	
42.8	31.0	2.0	5.9	25.5	5.0	82002898	
42.8	36.0	2.0	5.9	25.5	5.0		80358245
45.8	36.0	2.0	5.9	25.5	5.0	82002900	
49.9	20.9	2.0	5.9	25.5	5.0	82002901	
49.9	33.0	2.0	5.9	25.5	5.0	82002902	80358248
49.9	40.2	2.0	5.9	25.5	5.0	82002903	
60.9	25.8	2.0	5.9	26.0	5.0	82002904	80358250
81.0	36.0	2.0	6.0	44.0	5.0	82002968	

Note: For the complete programme, please see further info in the "full range" section.

## Full range

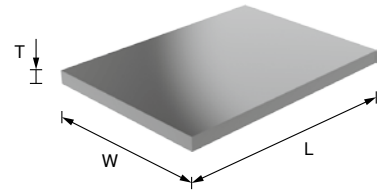
### CTBL ST00



L [mm]	W [mm]	T [mm]	KCR08	CTOPP10
15.0	15.5	2.0	11965858	
15.0	20.5	2.0	11965861	
15.0	25.5	2.0	11965867	
20.0	20.5	2.0	82023321	11776550
20.0	25.5	2.0	82019119	12072233
20.0	30.5	2.0	80301000	12072277
20.0	35.5	2.0	11965873	
25.0	20.5	2.0	82021847	
25.0	25.5	2.0	82026075	
25.0	30.5	2.0	82026077	12072279
25.0	35.5	2.0	80301001	
25.0	40.5	2.0		12071865
30.0	15.5	2.0	82019728	
30.0	20.5	2.0	82022403	
30.0	25.5	2.0	82024505	12072280
30.0	30.5	2.0	82021360	12071868
30.0	35.5	2.0	80301002	
30.0	40.5	2.0	11965874	12072283
35.0	20.5	2.0	82026079	11776554
35.0	25.5	2.0	82022466	11792776
35.0	30.5	2.0	82021848	
35.0	35.5	2.0	82019712	
35.0	40.5	2.0	82027464	
40.0	20.5	2.0	82026080	
40.0	25.0	2.0	82019223	
40.0	30.4	2.0	82021543	
40.0	35.5	2.0	82019225	
40.0	40.5	2.0	80301003	
45.0	20.5	2.0	82028692	



## CTBL ST00

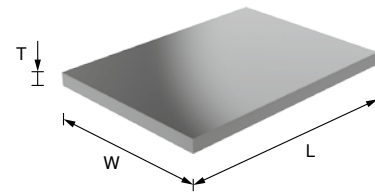


L [mm]	W [mm]	T [mm]	KCR08	CTOPP10
45.0	25.5	2.0	82026152	
45.0	30.5	2.0	11544440	
45.0	35.5	2.0	11965876	
50.0	20.5	2.0	82026548	
50.0	25.5	2.0	82023927	
50.0	30.5	2.0	80301004	12089518
50.0	35.5	2.0	82023784	
50.0	40.5	2.0	82023785	
50.0	45.5	2.0	11272525	
50.0	50.5	2.0	82024736	
60.0	20.5	2.0	82026549	
60.0	25.5	2.0	82025828	
60.0	30.5	2.0	82028435	
60.0	35.5	2.0	11363187	
60.0	40.5	2.0	80301005	12099409
60.0	45.5	2.0	11965880	
60.0	50.5	2.0	82024737	
70.0	20.5	2.0	11965881	
70.0	25.5	2.0	82026081	
70.0	30.5	2.0	11495972	
70.0	35.5	2.0	82026082	
70.0	40.5	2.0	82026083	
70.0	50.5	2.0	82024732	
80.0	25.5	2.0	11965882	
80.0	35.5	2.0	80301006	11783958
80.0	40.5	2.0	11790549	
80.0	45.5	2.0	11284684	
80.0	60.5	2.0	11965884	11842060
85.0	20.5	2.0	11965886	
85.0	25.5	2.0	11965887	
85.0	30.5	2.0	11495981	



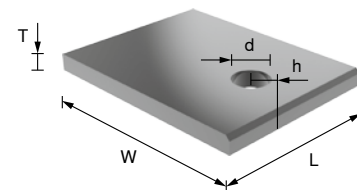


## CTBL ST00



L [mm]	W [mm]	T [mm]	KCR08	CTOPP10
85.0	35.5	2.0	11965890	
85.0	40.5	2.0	11965894	
85.0	50.5	2.0	11965897	
100.0	25.5	2.0	11965898	
100.0	30.5	2.0	11610153	
100.0	35.5	2.0	11610155	
100.0	40.5	2.0	11965900	
100.0	50.5	2.0	11965901	
105.0	25.5	2.0	11965902	
105.0	30.5	2.0	11965903	
105.0	35.5	2.0	11278382	
105.0	40.5	2.0	11965905	

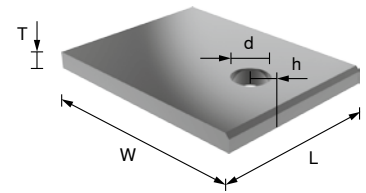
## CTBL ST10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08	HE40
20.0	20.5	2.0	6.5	4.2	80301010	80300507
20.0	25.5	2.0	6.5	4.2	80301011	80300508
20.0	30.5	2.0	6.5	4.2	80301012	80300509
20.0	35.5	2.0	6.5	4.2	80301013	
20.0	40.5	2.0	6.5	4.2	12076556	
25.0	20.5	2.0	6.5	4.2	80301014	
25.0	25.5	2.0	6.5	4.2	80301015	80300510
25.0	30.5	2.0	6.5	4.2	80301016	80300511

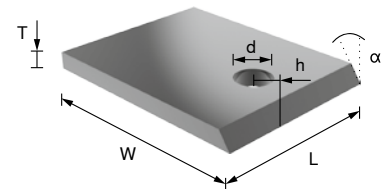


## CTBL ST10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08	HE40
25.0	35.5	2.0	6.5	4.2	80301017	80358372
30.0	20.5	2.0	6.5	4.2	80301018	80300512
30.0	25.5	2.0	6.5	4.2	80301019	80358373
30.0	30.5	2.0	6.5	4.2	80301020	80300513
30.0	35.5	2.0	6.5	4.2	80332963	82002931
35.0	25.5	2.0	6.5	4.2	80357667	
35.0	30.5	2.0	6.5	4.2	80301021	
35.0	35.5	2.0	6.5	4.2	80357668	

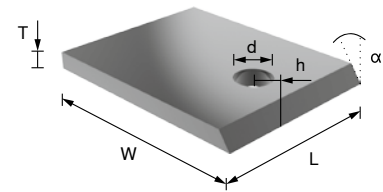
## CTBL ST11



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	α [°]	KCR08	HE40
15.0	15.5	2.0	6.3	4.2	35	80301047	
15.0	20.5	2.0	6.3	4.2	35	80301048	80300401
15.0	25.5	2.0	6.3	4.2	35	80301049	80300402
15.0	30.5	2.0	6.3	4.2	35	80301050	80300403
20.0	20.5	2.0	6.3	4.2	35	80301051	80300404
20.0	25.5	2.0	6.3	4.2	35	80301052	80300405
20.0	30.5	2.0	6.3	4.2	35	80301053	80300406
20.0	35.5	2.0	6.3	4.2	35	80301054	80300407
20.0	40.5	2.0	6.3	4.2	35	11965561	
25.0	20.5	2.0	6.3	4.2	35	80301055	80300408
25.0	25.5	2.0	6.3	4.2	35	80301056	80300409
25.0	30.5	2.0	6.3	4.2	35	80301057	80300410

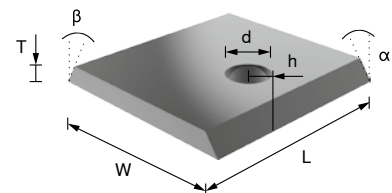


## CTBL ST11



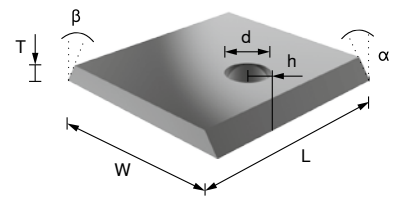
L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08	HE40
25.0	35.5	2.0	6.3	4.2	35	80301058	80300411
30.0	20.5	2.0	6.3	4.2	35	80301059	80300412
30.0	25.5	2.0	6.3	4.2	35	80301060	80300413
30.0	30.5	2.0	6.3	4.2	35	80301061	80300414
30.0	35.5	2.0	6.3	4.2	35	80301062	80300415
30.0	40.5	2.0	6.3	4.2	35	80301063	80300416
35.0	20.5	2.0	6.3	4.2	35	80301064	80300417
35.0	25.5	2.0	6.3	4.2	35	80301065	80300418
35.0	30.5	2.0	6.3	4.2	35	80301066	82002624
35.0	35.5	2.0	6.3	4.2	35	80301067	80300419
35.0	40.5	2.0	6.3	4.2	35	80301068	82011527
40.0	20.5	2.0	6.3	4.2	35	11964489	80300420
40.0	25.5	2.0	6.3	4.2	35	80357699	80300421
40.0	30.5	2.0	6.3	4.2	35	80357700	80300422
40.0	35.5	2.0	6.3	4.2	35	80357701	80300423
40.0	40.5	2.0	6.3	4.2	35	80357702	80300424

## CTBL ST12



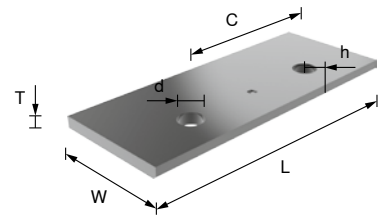
L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	$\beta$ [°]	KCR08	HE40
15.0	20.0	2.0	6.3	4.2	35	35	11964635	80300700
20.0	20.0	2.0	6.3	4.2	35	35	82026464	80300701
20.0	30.0	2.0	6.3	4.2	35	35	82026465	80300702

## CTBL ST12



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	$\beta$ [°]	KCR08	HE40
25.0	20.0	2.0	6.3	4.2	35	35	82026467	80300703
25.0	25.0	2.0	6.3	4.2	35	35		80300704
25.0	30.0	2.0	6.3	4.2	35	35	11964636	80300705
30.0	25.0	2.0	6.3	4.2	35	35	82026470	80300706
30.0	35.0	2.0	6.3	4.2	35	35	82026471	80300707
35.0	30.0	2.0	6.3	4.2	35	35	11964637	80300708
35.0	35.0	2.0	6.3	4.2	35	35	82026472	80300709

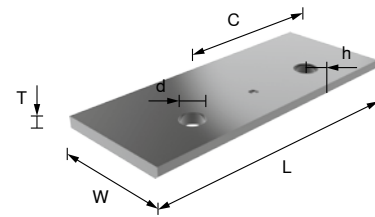
## CTBL ST20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08	HE40
30.0	20.5	2.0	14	6.5	4.2	80301022	
30.0	25.5	2.0	14	6.5	4.2	80301023	80300201
30.0	30.5	2.0	14	6.5	4.2	80301025	80300202
30.0	35.5	2.0	14	6.5	4.2	80301027	80300203
35.0	25.5	2.0	14	6.5	4.2	80301028	80300204
35.0	30.5	2.0	14	6.5	4.2	80301029	
35.0	35.5	2.0	14	6.5	4.2	80301030	80300205
40.0	20.5	2.0	26	6.5	4.2	80301031	80300206
40.0	25.5	2.0	26	6.5	4.2	80301032	80300207
40.0	30.5	2.0	26	6.5	4.2	80301033	80300208
40.0	35.5	2.0	26	6.5	4.2	80301034	80300209
40.0	40.5	2.0	26	6.5	4.2	80301035	80300210

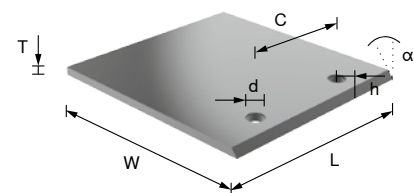


## CTBL ST20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08	HE40
50.0	20.5	2.0	26	6.5	4.2	12086540	80300211
50.0	25.5	2.0	26	6.5	4.2	80301037	80300212
50.0	30.5	2.0	26	6.5	4.2	80301038	82004972
50.0	35.5	2.0	26	6.5	4.2	80301040	80300213
50.0	40.5	2.0	26	6.5	4.2	80301041	
60.0	35.5	2.0	26	6.5	4.2	80301042	80300214
60.0	40.5	2.0	26	6.5	4.2	80301043	80300215
60.0	45.5	2.0	26	6.5	4.2	80301044	
80.0	25.5	2.0	60	6.5	4.2	80301045	80300216
80.0	30.5	2.0	60	6.5	4.2	11358151	
80.0	35.5	2.0	60	6.5	4.2	80301046	
80.0	40.5	2.0	60	6.5	4.2	80357685	80300217

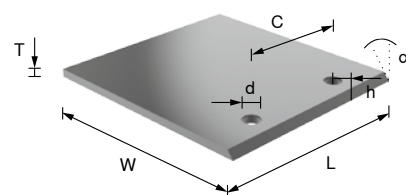
## CTBL ST21



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	α [°]	KCR08	HE40
30.0	20.5	2.0	14	6.3	4.2	35	80301069	
30.0	25.5	2.0	14	6.3	4.2	35	80301070	
30.0	30.5	2.0	14	6.3	4.2	35	80301071	
30.0	35.5	2.0	14	6.3	4.2	35	80301072	
35.0	25.5	2.0	14	6.3	4.2	35	80301073	
35.0	30.5	2.0	14	6.3	4.2	35	80301074	
35.0	35.5	2.0	14	6.3	4.2	35	80301075	

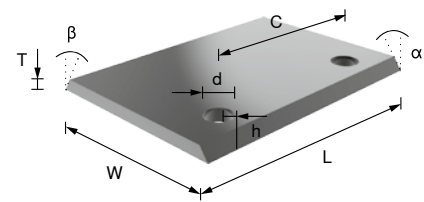


## CTBL ST21



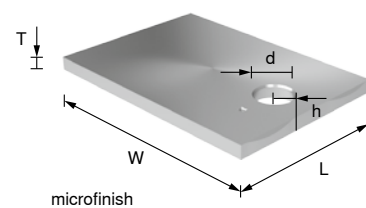
L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08	HE40
40.0	20.5	2.0	26	6.3	4.2	35	80301076	80300600
40.0	25.5	2.0	26	6.3	4.2	35	80301077	80300602
40.0	30.5	2.0	26	6.3	4.2	35	80301078	80300604
40.0	35.5	2.0	26	6.3	4.2	35	80301079	80300606
40.0	40.5	2.0	26	6.3	4.2	35	80301080	80300607
50.0	20.5	2.0	26	6.3	4.2	35	80301081	80300608
50.0	25.5	2.0	26	6.3	4.2	35	80301082	82015962
50.0	30.5	2.0	26	6.3	4.2	35	80301083	80300609
50.0	35.5	2.0	26	6.3	4.2	35	80301084	80300610
50.0	40.5	2.0	26	6.3	4.2	35	80301085	80300611
60.0	25.5	2.0	26	6.3	4.2	35	80301086	80300612
60.0	30.5	2.0	26	6.3	4.2	35	80301087	80300613
60.0	35.5	2.0	26	6.3	4.2	35	80301088	82002631
60.0	40.5	2.0	26	6.3	4.2	35	80301090	80300615
70.0	20.5	2.0	26	6.3	4.2	35	11424210	
70.0	25.5	2.0	26	6.3	4.2	35	80301091	
70.0	30.5	2.0	26	6.3	4.2	35	80301092	82002516
70.0	35.5	2.0	26	6.3	4.2	35	80301093	80300616
80.0	25.5	2.0	60	6.3	4.2	35	80301095	82002633
80.0	30.5	2.0	60	6.3	4.2	35	80301096	
80.0	35.5	2.0	60	6.3	4.2	35	80301097	80300617
80.0	40.5	2.0	60	6.3	4.2	35	80301098	80300618

## CTBL ST22



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	α [°]	β [°]	KCR08	HE40
40.0	20.0	2.0	26	6.3	4.2	35	35	11965983	
40.0	25.0	2.0	26	6.3	4.2	35	35	11965986	80300821
40.0	30.0	2.0	26	6.3	4.2	35	35	11965987	80300822
40.0	35.0	2.0	26	6.3	4.2	35	35	11965992	80300824
40.0	40.0	2.0	26	6.3	4.2	35	35	11965993	80300825
45.0	35.0	2.0	26	6.3	4.2	35	35	11965994	
50.0	25.0	2.0	26	6.3	4.2	35	35	11965995	
50.0	30.0	2.0	26	6.3	4.2	35	35	11965997	80300826
50.0	35.0	2.0	26	6.5	4.2	35	35	82026973	
50.0	40.0	2.0	26	6.3	4.2	35	35	11965998	80300827
60.0	25.0	2.0	26	6.3	4.2	35	35	11965999	80300828
60.0	30.0	2.0	26	6.3	4.2	35	35	11966000	80300829
60.0	35.0	2.0	26	6.3	4.2	35	35		80300830
60.0	40.0	2.0	26	6.3	4.2	35	35	11966002	80300831

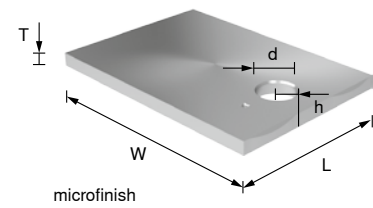
## CTBL MP10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
20.0	20.5	2.0	6.5	5.2	80302000
20.0	25.5	2.0	6.5	5.2	80302001
20.0	30.5	2.0	6.5	5.2	80302002
20.0	35.5	2.0	6.5	5.2	80302003

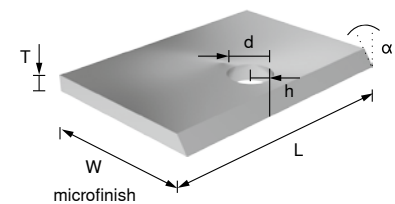


## CTBL MP10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
25.0	20.5	2.0	6.5	5.2	80302004
25.0	25.5	2.0	6.5	5.2	80302005
25.0	30.5	2.0	6.5	5.2	80302006
25.0	35.5	2.0	6.5	5.2	80302007
30.0	20.5	2.0	6.5	5.2	80302008
30.0	25.5	2.0	6.5	5.2	80302009
30.0	30.5	2.0	6.5	5.2	80302010
35.0	30.5	2.0	6.5	5.2	80302011
26.0	32.0	2.0	6.5	5.2	11803771

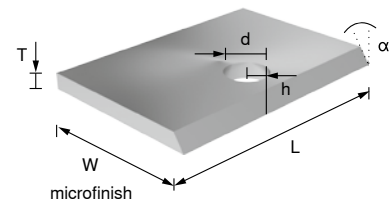
## CTBL MP11



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
20.0	20.5	2.0	5.9	5.2	35	80302037
20.0	25.5	2.0	5.9	5.2	35	80302038
20.0	30.5	2.0	5.9	5.2	35	80302039
20.0	35.5	2.0	5.9	5.2	35	80302040
25.0	20.5	2.0	5.9	5.2	35	80302041
25.0	25.5	2.0	5.9	5.2	35	80302042
25.0	30.5	2.0	5.9	5.2	35	80302043
25.0	35.5	2.0	5.9	5.2	35	80302044
30.0	20.5	2.0	5.9	5.2	35	80302045
30.0	25.5	2.0	5.9	5.2	35	80302046
30.0	30.5	2.0	5.9	5.2	35	80302047

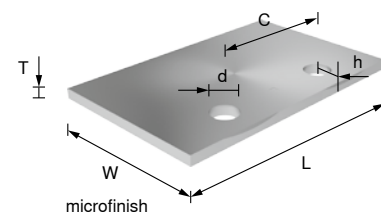


## CTBL MP11



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
30.0	35.5	2.0	5.9	5.2	35	80302048
30.0	40.5	2.0	5.9	5.2	35	80302049
35.0	20.5	2.0	5.9	5.2	35	80302050
35.0	25.5	2.0	5.9	5.2	35	80302051
35.0	30.5	2.0	5.9	5.2	35	80302052
35.0	35.5	2.0	5.9	5.2	35	80302053
35.0	40.5	2.0	5.9	5.2	35	80302054

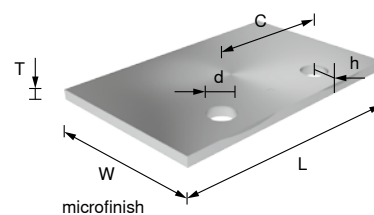
## CTBL MP20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
30.0	20.5	2.0	14	6.5	5.2	80302012
30.0	25.5	2.0	14	6.5	5.2	80302013
30.0	30.5	2.0	14	6.5	5.2	80302015
30.0	35.5	2.0	14	6.5	5.2	80302017
35.0	25.5	2.0	14	6.5	5.2	80302018
35.0	30.5	2.0	14	6.5	5.2	80302019
35.0	35.5	2.0	14	6.5	5.2	80302020
40.0	20.5	2.0	26	6.5	5.2	80302021
40.0	25.5	2.0	26	6.5	5.2	80302022
40.0	30.5	2.0	26	6.5	5.2	80302023
40.0	35.5	2.0	26	6.5	5.2	80302024
40.0	40.5	2.0	26	6.5	5.2	80302025
50.0	20.5	2.0	26	6.5	5.2	80302026

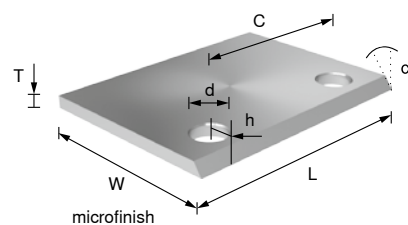


## CTBL MP20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
50.0	25.5	2.0	26	6.5	5.2	80302027
50.0	30.5	2.0	26	6.5	5.2	80302028
50.0	32.3	2.0	24	6.5	5.2	80302029
50.0	35.5	2.0	26	6.5	5.2	80302030
50.0	40.5	2.0	26	6.5	5.2	80302031
60.0	35.5	2.0	26	6.5	5.2	80302032
60.0	45.5	2.0	26	6.5	5.2	80302034
80.0	35.5	2.0	60	6.5	5.2	80302036
60.0	40.5	2.0	26	6.5	5.2	80302033
80.0	25.5	2.0	60	6.5	5.2	80302035

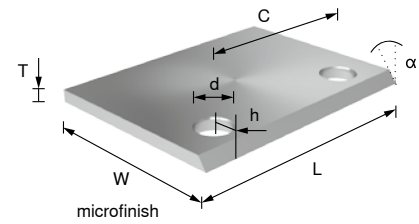
## CTBL MP21



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
30.0	20.5	2.0	14	5.9	5.2	35	80302055
30.0	25.5	2.0	14	5.9	5.2	35	80302056
30.0	30.5	2.0	14	5.9	5.2	35	80302057
35.0	25.5	2.0	14	5.9	5.2	35	80302059
35.0	30.5	2.0	14	5.9	5.2	35	80302060
35.0	35.5	2.0	14	5.9	5.2	35	80302061
40.0	20.5	2.0	26	5.9	5.2	35	80302062
40.0	25.5	2.0	26	5.9	5.2	35	80302063
40.0	30.5	2.0	26	5.9	5.2	35	80302064
40.0	35.5	2.0	26	5.9	5.2	35	80302065

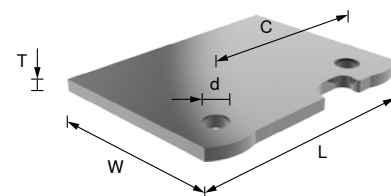


## CTBL MP21



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
40.0	40.5	2.0	26	5.9	5.2	35	80302066
50.0	20.5	2.0	26	5.9	5.2	35	80302067
50.0	25.5	2.0	26	5.9	5.2	35	80302068
50.0	30.5	2.0	26	5.9	5.2	35	80302069
50.0	35.5	2.0	26	5.9	5.2	35	80302070
50.0	40.5	2.0	26	5.9	5.2	35	80302071
60.0	25.5	2.0	26	5.9	5.2	35	80302072
60.0	30.5	2.0	26	5.9	5.2	35	80302073
60.0	35.5	2.0	26	5.9	5.2	35	80302074
60.0	39.5	2.0	44	5.9	5.2	35	80302075
60.0	40.5	2.0	26	5.9	5.2	35	80302076
70.0	25.5	2.0	26	5.9	5.2	35	80302077
70.0	30.5	2.0	26	5.9	5.2	35	80302078
70.0	35.5	2.0	26	5.9	5.2	35	80302079
80.0	25.5	2.0	60	5.9	5.2	35	80302081
80.0	30.5	2.0	60	5.9	5.2	35	80302082
80.0	35.5	2.0	60	5.9	5.2	35	80302083
80.0	40.5	2.0	60	5.9	5.2	35	80302084

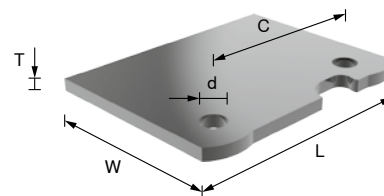
## CTBL SP20



L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	KCR08
30.6	25.5	1.5	20	4.0	82002867
40.4	34.5	1.5	28	4.0	11509585

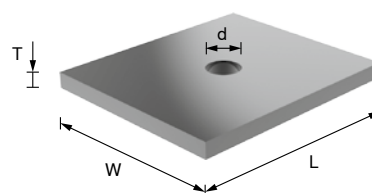


## CTBL SP20



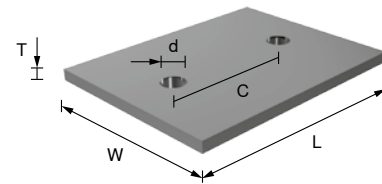
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	KCR08
40.4	34.5	2.0	28	4.0	82023341
40.6	28.2	1.5	28	4.0	80301115
40.6	28.2	2.0	28	4.0	80301116
40.6	31.5	1.5	28	4.0	11509584
40.6	31.5	2.0	28	4.0	82025820
40.6	40.6	2.0	28	5.0	82002869
50.7	34.5	1.5	35	4.0	11805260
50.7	34.5	2.0	35	4.0	11286787
60.6	30.2	2.0	48	4.0	11365817
60.6	34.5	1.5	48	4.0	82031543
60.6	45.6	2.0	45	5.0	80301118
60.8	30.2	1.5	48	4.0	80301117
80.6	45.6	2.0	65	6.0	80301119

## CTBL RV10



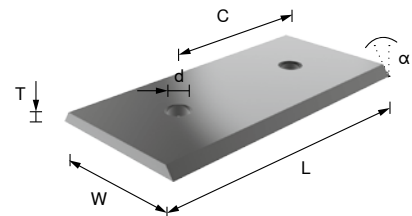
L [mm]	W [mm]	T [mm]	d [mm]	KCR08
12.0	20.4	2.0	4.2	11965758
24.0	22.0	2.0	4.2	80301107
28.0	24.0	2.0	4.2	11965760
32.0	24.0	2.0	4.2	11965765
36.0	28.0	2.0	4.2	80301108
40.0	26.0	2.0	4.2	11965767

## CTBL RV20



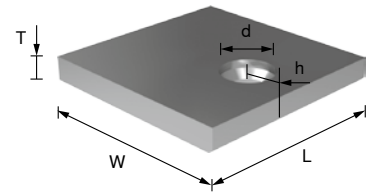
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	KCR08
40.0	20.4	2.0	26	4.2	11965777
42.0	32.0	2.0	24	4.2	11965770
48.0	36.0	2.0	24	4.2	11965774

## CTBL RV22



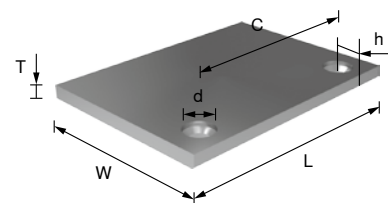
L [mm]	W [mm]	T [mm]	C [mm]	d [mm]	$\alpha$ [°]	KCR08
30.0	25.0	2.0	20	4.2	35	11965780
42.0	32.0	2.0	26	4.2	35	11965812
45.0	35.0	2.0	26	4.2	35	11965821
50.0	16.0	2.0	26	4.2	35	11965834
50.0	20.0	2.0	26	4.2	35	11965835
50.0	25.0	2.0	26	4.2	35	11884976
50.0	40.0	2.0	34	4.2	35	11965838
50.0	45.0	2.0	34	4.2	35	11965839
51.0	26.0	2.0	26	4.2	35	11965840
52.0	34.0	2.0	24	4.2	35	11965846
60.0	19.0	2.0	44	4.2	35	11965847
60.0	20.0	2.0	26	4.2	35	80301103
60.0	25.0	2.0	36	4.0	35	12113519

## CTBL CH10



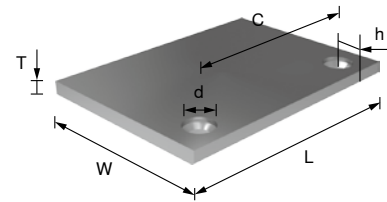
L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
20.0	20.5	3.0	7.0	4.5	80301120
20.0	25.5	3.0	7.0	4.5	80301121
20.0	30.5	3.0	7.0	4.5	80301122
20.0	35.5	3.0	7.0	4.5	80301123
25.0	25.5	3.0	7.0	4.5	80301125
25.0	30.5	3.0	7.0	4.5	80301126
25.0	35.5	3.0	7.0	4.5	80301127
25.0	40.5	3.0	7.0	4.5	80301128
30.0	25.5	3.0	7.0	4.5	80301129
30.0	30.5	3.0	7.0	4.5	80301130
30.0	35.5	3.0	7.0	4.5	80301131
30.0	40.5	3.0	7.0	4.5	80301132
35.0	25.5	3.0	7.0	4.5	80301133
35.0	30.5	3.0	7.0	4.5	80301134
35.0	35.5	3.0	7.0	4.5	80301135
35.0	40.5	3.0	7.0	4.5	80301136
20.0	40.5	3.0	7.0	4.5	80301124

## CTBL CH20



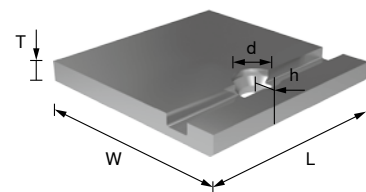
L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
40.0	20.5	3.0	28	7.0	4.5	80301137
40.0	25.5	3.0	28	7.0	4.5	80301138
40.0	30.5	3.0	28	7.0	4.5	80301139

## CTBL CH20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
45.0	25.5	3.0	28	7.0	4.5	80301140
45.0	30.5	3.0	28	7.0	4.5	80301141
45.0	35.5	3.0	28	7.0	4.5	80301142
55.0	25.5	3.0	41	6.0	4.5	80301143
55.0	30.5	3.0	41	6.0	4.5	80301144
55.0	35.5	3.0	41	6.0	4.5	80301145
55.0	40.5	3.0	41	6.0	4.5	80301146
65.0	20.5	3.0	28	6.0	4.5	80301155
65.0	25.5	3.0	28	6.0	4.5	80301147
65.0	30.5	3.0	28	6.0	4.5	80301148
65.0	35.5	3.0	28	6.0	4.5	80301149
65.0	40.5	3.0	28	6.0	4.5	80301150
80.0	25.5	3.0	66	6.0	4.5	80301151
80.0	30.5	3.0	66	6.0	4.5	80301152
80.0	35.5	3.0	66	6.0	4.5	80301153
80.0	40.5	3.0	66	6.0	4.5	80301154

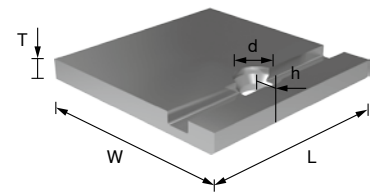
## CTBL GR10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
20.0	20.5	3.0	7.0	4.5	80301156
20.0	25.5	3.0	7.0	4.5	80301157
20.0	30.5	3.0	7.0	4.5	80301158
20.0	35.5	3.0	7.0	4.5	80301159

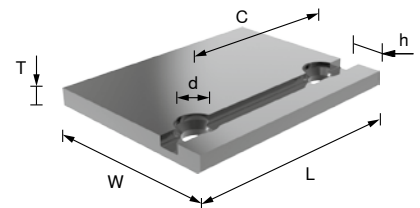


## CTBL GR10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
20.0	40.5	3.0	7.0	4.5	80301160
25.0	25.5	3.0	7.0	4.5	80301161
25.0	30.5	3.0	7.0	4.5	80301162
25.0	35.5	3.0	7.0	4.5	80301163
25.0	40.5	3.0	7.0	4.5	80301164
30.0	25.5	3.0	7.0	4.5	80301165
30.0	30.5	3.0	7.0	4.5	80301166
30.0	35.5	3.0	7.0	4.5	80301167
30.0	40.5	3.0	7.0	4.5	80301168
35.0	25.5	3.0	7.0	4.5	80301169
35.0	30.5	3.0	7.0	4.5	80301170
35.0	35.5	3.0	7.0	4.5	80301171
35.0	40.5	3.0	7.0	4.5	80301172

## CTBL GR20

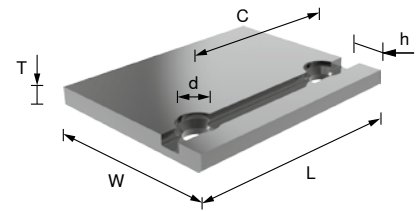


L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
40.0	20.5	3.0	28	7.0	4.5	80301173
40.0	25.5	3.0	28	7.0	4.5	80301174
40.0	30.5	3.0	28	7.0	4.5	80301175
45.0	25.5	3.0	28	7.0	4.5	80301176
45.0	30.5	3.0	28	7.0	4.5	80301177
45.0	35.5	3.0	28	7.0	4.5	80301178
55.0	25.5	3.0	41	6.0	4.5	80301179



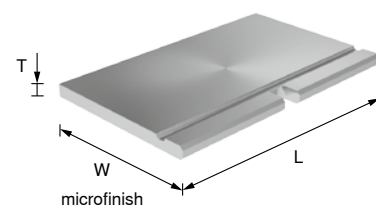


## CTBL GR20



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	KCR08
55.0	30.5	3.0	41	6.0	4.5	80301180
55.0	35.5	3.0	41	6.0	4.5	80301181
55.0	40.5	3.0	41	6.0	4.5	80301182
65.0	20.5	3.0	28	6.0	4.5	80301183
65.0	25.5	3.0	28	6.0	4.5	80301184
65.0	30.5	3.0	28	6.0	4.5	80301185
65.0	35.5	3.0	28	6.0	4.5	80301186
65.0	40.5	3.0	28	6.0	4.5	80301187
70.0	25.5	3.0	41	6.0	4.5	80301188
80.0	25.5	3.0	66	6.0	4.5	80301189
80.0	30.5	3.0	66	6.0	4.5	80301190
80.0	35.5	3.0	66	6.0	4.5	80301191
80.0	40.5	3.0	66	6.0	4.5	80301192

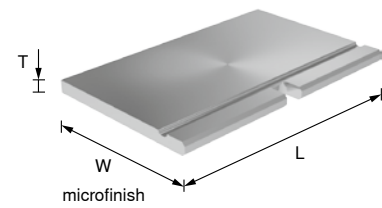
## CTBL MC00



L [mm]	W [mm]	T [mm]	KCR08
20.5	16.5	2.0	80301200
20.5	22.5	2.0	80301201
20.5	25.5	2.0	80301202
20.5	27.9	2.0	80301203
20.5	30.5	2.0	80301204
20.5	34.5	2.0	80301205
25.5	16.5	2.0	11907017



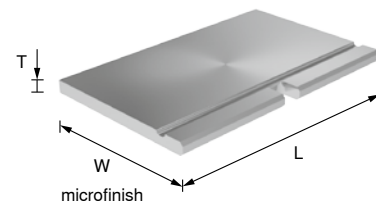
## CTBL MC00



L [mm]	W [mm]	T [mm]	KCR08
25.5	22.5	2.0	11907019
25.5	25.5	2.0	80301206
25.5	27.9	2.0	80301207
25.5	30.5	2.0	80301208
25.5	34.5	2.0	80301209
30.5	16.5	2.0	11907020
30.5	22.5	2.0	80301210
30.5	25.5	2.0	80301211
30.5	27.9	2.0	80301212
30.5	30.5	2.0	80301213
30.5	34.5	2.0	80301214
35.5	22.5	2.0	80301215
35.5	25.5	2.0	80301216
35.5	32.5	2.0	80301217
40.5	16.5	2.0	80301218
40.5	22.5	2.0	80301219
40.5	25.5	2.0	80301220
40.5	27.9	2.0	80301221
40.5	30.5	2.0	80301222
40.5	32.5	2.0	80301223
40.5	34.5	2.0	80301224
50.5	22.5	2.0	80301225
50.5	25.5	2.0	80301226
50.5	27.9	2.0	80301227
50.5	30.5	2.0	80301228
50.5	32.5	2.0	80301229
50.5	34.5	2.0	80301230
60.5	22.5	2.0	80301231
60.5	25.5	2.0	80301232
60.5	27.9	2.0	80301233
60.5	30.5	2.0	80301234

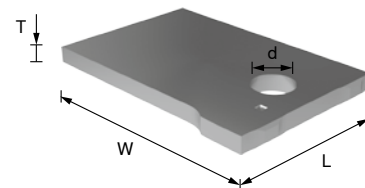


## CTBL MC00



L [mm]	W [mm]	T [mm]	KCR08
60.5	32.5	2.0	80301235
80.5	16.5	2.0	80301236
150.0	15.5	2.0	11702321
150.0	20.5	2.0	11702320
150.0	25.5	2.0	11607971
150.0	30.5	2.0	11702318
150.0	35.5	2.0	11702317

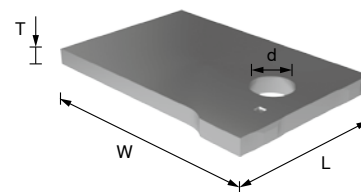
## CTBL NN10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08	HE40
12.0	16.6	2.0	6.0	4.2	82001412	
12.5	20.5	2.0	5.9	5.0	82002871	80358200
13.5	16.6	2.0	5.9	4.2	82001411	
15.5	20.5	2.0	5.9	5.0	82002872	
15.5	25.5	2.0	5.9	5.0	82002873	
16.4	20.5	2.0	5.9	5.0	82002874	
16.7	25.9	2.0	5.9	5.0	82002875	
18.4	18.9	2.0	5.9	5.0	82002876	
18.4	25.9	2.0	5.9	5.0	82002877	
18.4	36.3	2.0	5.9	5.0	82002878	
20.3	20.5	2.0	5.9	5.0	82002879	
20.3	25.5	2.0	5.9	5.0	82002880	80358209
20.3	30.4	2.0	5.9	5.0	82002881	80358210

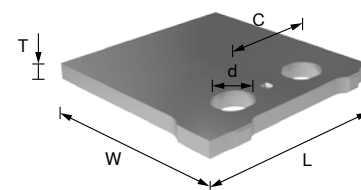


## CTBL NN10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08	HE40
22.3	25.5	2.0	5.9	5.0	82002882	
24.3	20.9	2.0	5.9	5.0	82002883	
24.3	28.4	2.0	5.9	5.0	82002884	
25.3	25.9	2.0	5.9	5.0	82002885	
25.3	35.3	2.0	5.9	5.0	82002886	
28.2	25.5	2.0	5.9	5.0	82002887	80358216
28.2	35.3	2.0	5.9	5.0		80358217

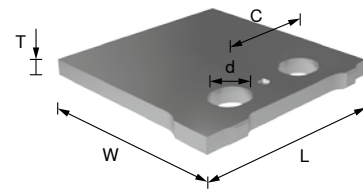
## CTBL NN20



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	C [mm]	KCR08	HE40
30.2	25.5	2.0	5.9	5.0	13.8	82002889	80358235
30.2	30.4	2.0	5.9	5.0	13.8	82002890	80358236
32.2	22.8	2.0	5.9	5.0	13.8	82002891	
32.2	35.4	2.0	5.9	5.0	13.8	82002892	
32.8	47.2	2.0	5.9	5.0	13.0	82002893	
35.2	26.0	2.0	5.9	5.0	13.0	82002894	
40.1	20.9	2.0	5.9	5.0	25.5	82002895	80358241
40.1	30.4	2.0	5.9	5.0	25.5	82002896	80358242
40.8	36.0	2.0	5.9	5.0	25.5	82002897	
42.8	31.0	2.0	5.9	5.0	25.5	82002898	
42.8	36.0	2.0	5.9	5.0	25.5		80358245
45.8	36.0	2.0	5.9	5.0	25.5	82002900	
49.9	20.9	2.0	5.9	5.0	25.5	82002901	

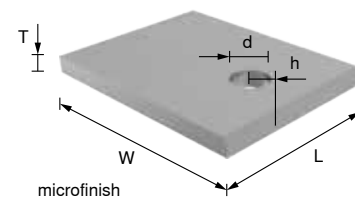


## CTBL NN20



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	C [mm]	KCR08	HE40
49.9	33.0	2.0	5.9	5.0	25.5	82002902	80358248
49.9	40.2	2.0	5.9	5.0	25.5	82002903	
60.9	25.8	2.0	5.9	5.0	26.0	82002904	80358250
81.0	36.0	2.0	6.0	5.0	44.0	82002968	

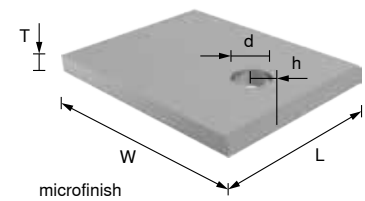
## CTBL IT10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
16.0	20.5	2.0	6.8	4.5	11482195
25.0	25.0	2.0	6.8	4.5	11556261
30.0	35.5	2.0	6.8	4.5	11827297
15.0	15.5	2.0	6.8	4.5	11965039
15.0	20.5	2.0	6.8	4.5	11965050
15.0	25.5	2.0	6.8	4.5	11965053
15.0	30.5	2.0	6.8	4.5	11965055
20.0	20.5	2.0	6.8	4.5	11965058
20.0	25.5	2.0	6.8	4.5	11965072
20.0	30.5	2.0	6.8	4.5	11965117
20.0	35.5	2.0	6.8	4.5	11965119
25.0	20.5	2.0	6.8	4.5	11965122
25.0	25.5	2.0	6.8	4.5	11965123
25.0	30.5	2.0	6.8	4.5	11965124
25.0	35.5	2.0	6.8	4.5	11965126
25.0	40.5	2.0	6.8	4.5	11965283



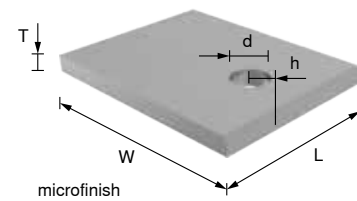
## CTBL IT10



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
30.0	20.5	2.0	6.8	4.5	11965285
30.0	25.5	2.0	6.8	4.5	11965288
30.0	30.5	2.0	6.8	4.5	11965292
30.0	40.5	2.0	6.8	4.5	11965294
35.0	25.5	2.0	6.8	4.5	11965295
20.0	40.5	2.0	6.8	4.5	12045374
22.0	20.5	2.0	6.8	4.5	12090982
15.0	35.5	2.0	6.8	4.5	12133222
16.5	34.5	2.0	6.8	4.5	12149729
15.0	17.5	2.0	6.8	4.5	12257097
15.0	20.5	2.0	6.3	4.5	11965312
15.0	25.5	2.0	6.3	4.5	11965315
20.0	20.5	2.0	6.3	4.5	11965337
20.0	25.5	2.0	6.3	4.5	11965340
25.0	25.5	2.0	6.3	4.5	11965363
25.0	30.5	2.0	6.3	4.5	11965365
30.0	40.5	2.0	6.5	4.5	11844700
30.0	20.5	2.0	6.5	4.5	11965436
30.0	25.5	2.0	6.5	4.5	11965441
30.0	30.5	2.0	6.5	4.5	11965444
35.0	25.5	2.0	6.5	4.5	11965452
35.0	30.5	2.0	6.5	4.5	11965456
35.0	35.5	2.0	6.5	4.5	11965458
35.0	40.5	2.0	6.5	4.5	11965474
40.0	20.5	2.0	6.5	4.5	11965475
40.0	25.5	2.0	6.5	4.5	11965480
40.0	30.5	2.0	6.5	4.5	11965481
40.0	35.5	2.0	6.5	4.5	11965482
40.0	40.5	2.0	6.5	4.5	11965493
50.0	20.5	2.0	6.5	4.5	11965500
50.0	25.5	2.0	6.5	4.5	11965502
50.0	30.5	2.0	6.5	4.5	11965506

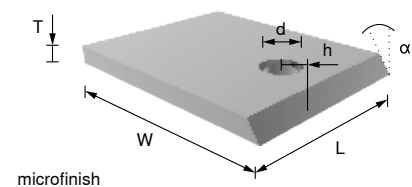


## CTBL IT10



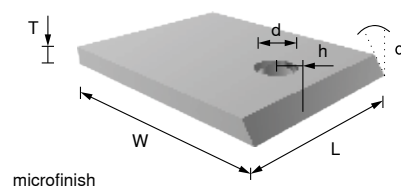
L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	KCR08
50.0	35.5	2.0	6.5	4.5	11965512
50.0	40.5	2.0	6.5	4.5	11965514
60.0	20.5	2.0	6.5	4.5	11965518
60.0	25.5	2.0	6.5	4.5	11965521
60.0	30.5	2.0	6.5	4.5	11965522
60.0	35.5	2.0	6.5	4.5	11965527
60.0	40.5	2.0	6.5	4.5	11965530
80.0	25.5	2.0	6.5	4.5	11965537
80.0	30.5	2.0	6.5	4.5	11965541
80.0	50.5	2.0	6.5	4.5	11965551
40.0	45.5	2.0	6.5	4.5	12006984
30.0	35.5	2.0	6.3	4.5	11965602
35.0	30.5	2.0	6.3	4.5	11965605
50.0	25.5	2.0	6.3	4.5	11965659
70.0	35.5	2.0	6.3	4.5	11965744
100.0	30.5	2.0	6.3	4.5	11965753

## CTBL IT11



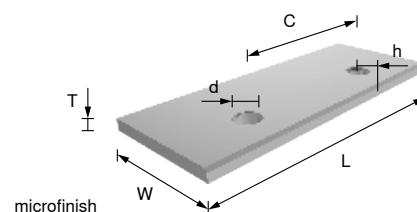
L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
15.0	20.5	2.0	6.3	4.5	35	11965312
15.0	25.5	2.0	6.3	4.5	35	11965315
20.0	20.5	2.0	6.3	4.5	35	11965337
20.0	25.5	2.0	6.3	4.5	35	11965340

## CTBL IT11



L [mm]	W [mm]	T [mm]	h [mm]	d [mm]	$\alpha$ [°]	KCR08
25.0	25.5	2.0	6.3	4.5	35	11965363
25.0	30.5	2.0	6.3	4.5	35	11965365

## CTBL IT20

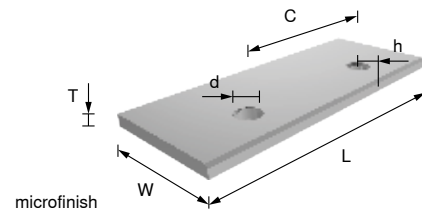


L [mm]	W [mm]	T [mm]	h [mm]	C [mm]	d [mm]	KCR08
30.0	40.5	2.0	6.5	14	4.5	11844700
30.0	20.5	2.0	6.5	14	4.5	11965436
30.0	25.5	2.0	6.5	14	4.5	11965441
30.0	30.5	2.0	6.5	14	4.5	11965444
35.0	25.5	2.0	6.5	14	4.5	11965452
35.0	30.5	2.0	6.5	14	4.5	11965456
35.0	35.5	2.0	6.5	14	4.5	11965458
35.0	40.5	2.0	6.5	14	4.5	11965474
40.0	20.5	2.0	6.5	26	4.5	11965475
40.0	25.5	2.0	6.5	26	4.5	11965480
40.0	30.5	2.0	6.5	26	4.5	11965481
40.0	35.5	2.0	6.5	26	4.5	11965482
40.0	40.5	2.0	6.5	26	4.5	11965493
50.0	20.5	2.0	6.5	26	4.5	11965500
50.0	25.5	2.0	6.5	26	4.5	11965502
50.0	30.5	2.0	6.5	26	4.5	11965506
50.0	35.5	2.0	6.5	26	4.5	11965512
50.0	40.5	2.0	6.5	26	4.5	11965514



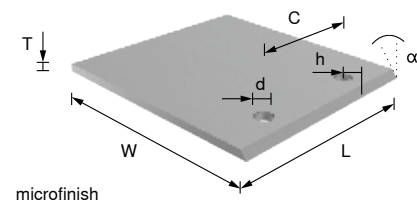


## CTBL IT20



L [mm]	W [mm]	T [mm]	h [mm]	C [mm]	d [mm]	KCR08
60.0	20.5	2.0	6.5	26	4.5	11965518
60.0	25.5	2.0	6.5	26	4.5	11965521
60.0	30.5	2.0	6.5	26	4.5	11965522
60.0	35.5	2.0	6.5	26	4.5	11965527
60.0	40.5	2.0	6.5	26	4.5	11965530
80.0	25.5	2.0	6.5	60	4.5	11965537
80.0	30.5	2.0	6.5	60	4.5	11965541
80.0	50.5	2.0	6.5	60	4.5	11965551
40.0	45.5	2.0	6.5	26	4.5	12006984

## CTBL IT21



L [mm]	W [mm]	T [mm]	C [mm]	h [mm]	d [mm]	α [°]	KCR08
30.0	35.5	2.0	14	6.3	4.5	35	11965602
35.0	30.5	2.0	18	6.3	4.5	35	11965605
50.0	25.5	2.0	26	6.3	4.5	35	11965659
70.0	35.5	2.0	26	6.3	4.5	35	11965744
100.0	30.5	2.0	60	6.3	4.5	35	11965753

## Strips

We are now offering our strips in the newly developed carbide grade KCR18+, combining corrosion resistance with higher performance: thanks to its toughness, you can even work on non-homogeneous parts with less risk of chipping. We have shortened the presentation of the product tables by only indicating the available ranges to provide a better overview of the great variety of our strips.



## Designation system

### Strips

	Product	Style	Thickness [mm]		Width [mm]		Length [mm]	Grade
Example	CTS	BG02-	5.0	X	14.0	X	400	KCR18+

## KCR18+

### The latest member of our KCR family

Benefit from our Cr-Ni binder based KCR grades:

- ▲ Higher process reliability thanks to corrosion and oxidation resistance during cutting
- ▲ Higher performance potential thanks to the improved ratio of hardness to fracture toughness

### Properties

Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR18+	9.5	submicron	1590	91.7	10.8	3750

The MG18 grade has been the standard for more than a decade in the field of primary wood machining. The new KCR18+ grade stands for performance and longer product life, and thus also for improved reliability in practice.

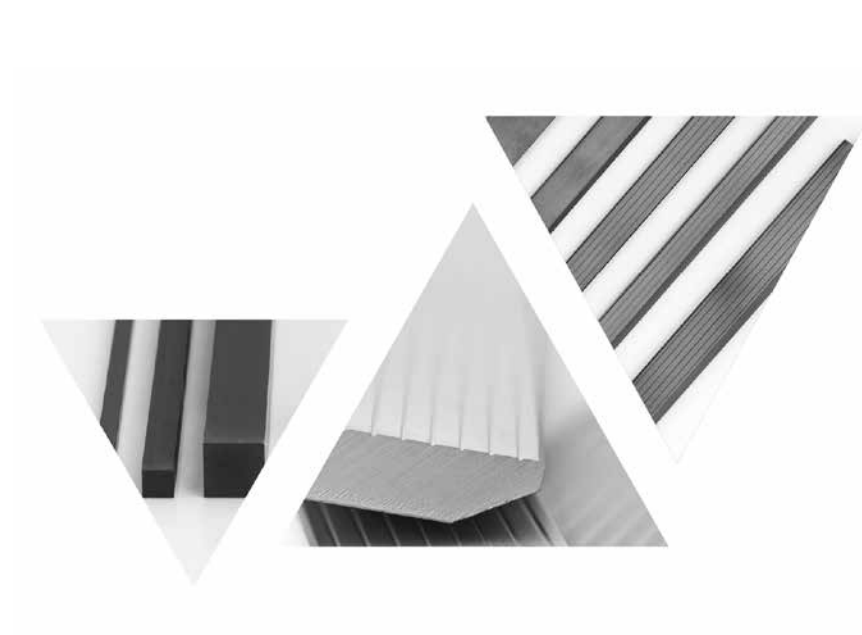
Our KCR18+ range includes rectangular strips with groove lines in various dimensions. Combining KCR18+ with groove lines, brazing becomes an easy process. KCR18+ is the ideal replacement for MG18. Whether profiling or planing, our new grade range always offers a solution for all your applications.

## Grade recommendation

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



Grade	Hardwood	Softwood	Chipboard	MDF	HDF
KCR06	••••	••	•••	•••	•••
KCR18+	•••	•••	••	•	•
CTOPP10	••	••	••	•	•



Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa·m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR06	3.0	submicron	1950	93.6	8.5	2300
KCR18+	9.5	submicron	1590	91.7	10.8	3750
CTOPP10	10.5	submicron	1570	91.6	10.0	3000

## Portfolio – overview

	Type, description	Most popular		Full range	
		Grade	page(s)	Grade	page(s)
<b>Conventional Style</b>					
	CTS 00	CTOPP10	79	CTOPP10	84
	CTS 01 / CTS 02			CTOPP10	84
<b>Back grooves</b>					
	CTS BG00	KCR18+	82	KCR18+ KCR06	85
	CTS BG01 / CTS BG02	KCR18+	82	KCR18+ KCR06	86
<b>STB</b>					
	STB			KCR18+	87

## Tolerances

<b>Length</b> [mm]	<b>Tolerances</b> [mm]
400	+0 / +8
<b>Width</b> [mm]	<b>Tolerances</b> [mm]
7 – 29	+0 / +0.5
30 – 40	+0 / +0.8
<b>Thickness</b> [mm]	<b>Tolerances</b> [mm]
2 – 7	+0 / +0.2

## CTS 00 / CTS 01 / CTS 02

CTOPP10

$\alpha$ [°]	$\beta$ [°]						
30	35	T [mm]	W [mm]	L [mm]	CTS 00	CTS 01	CTS 02
		2	3	310	11654415		
		2	6	310	11654486	11788331	
		2	8	310	11654419	11788332	
		2	10	310	11743477		
		2	12	310	11786087		
		2	15	310	11703267		
		2	16	310	11786089		
		2	18	310	11786090		
		2	19	310	11786091		
		3	5	310	11729726		
		3	6	310	11674842		
		3	8	310	11654424	11788349	
		3	10	310	11743478	11788333	
		3	11	310	11786093		
		3	12	310	11654426	11788335	11788386
		3	14	310	11988496		
		3	15	310	11654430		11788388
		3	16	310	11699867		
		3	18	310	11706993		
		3	20	310	11654432		11788391
		3	25	310	11786094		11788393
		3	28	310	11786107		
		3	31	310	11786108		
		4	5	310	11786103		
		4	10	310	11654441	11788351	11788402
		4	12	310	11654449	11788352	11788403
		4	13	310			11788404
		4	14	310	11786098		11788405
		4	15	310	11786099	11788355	11788406
		4	16	310	11749703	11788356	
		4	18	310	11786100	11788357	11788408
		4	20	310	11654453	11788358	

Note: For the complete programme, please see further info in the "full range" section.

**CTS 00 / CTS 01 / CTS 02**

CTOPP10

$\alpha$ [°]	$\beta$ [°]				
30	35				
T [mm]	W [mm]	L [mm]	CTS 00	CTS 01	CTS 02
4	22	310	11786101		
4	25	310	11786102	11788360	11788410
4	30	310	11829767		
4	32	310	12024555		
4	35	310	11835627		
4	40	310			11829922
5	5	310	11786700		
5	10	310	11786699		
5	12	310			11988342
5	14	310			11988343
5	15	310	11786698	11788366	11788416
5	16	310	11786697		11788417
5	18	310	11929880		11988344
5	20	310	11786703	11788368	11788418
5	25	310	11929881		11988345
5	35	310			12120404
5	45	310			12120405

**CTS BG00 / CTS BG01 / CTS BG02**

KCR06

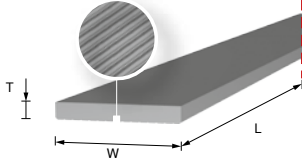
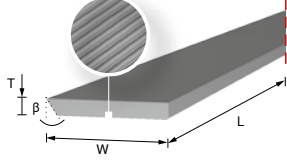
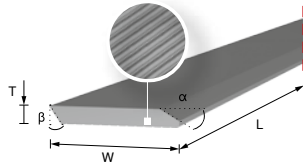
Groove depth [mm]	$\alpha$ [°]	$\beta$ [°]			
0.15	30	35			
T [mm]	W [mm]	L [mm]	CTS BG00	CTS BG01	CTS BG02
2	8	400	6288727	6289313	
2	10	400	6288740	6289316	
2	12	400	6288762		
2	15	400	6288770	6289322	
2	20	400	6288776		

Note: For the complete programme, please see further info in the "full range" section. →



## CTS BG00 / CTS BG01 / CTS BG02

KCR06

Groove depth [mm]	$\alpha$ [°]	$\beta$ [°]	  		
T [mm]	W [mm]	L [mm]	CTS BG00	CTS BG01	CTS BG02
0.15	30	35			
2	25	400	6288783		
2	30	400	6288788		
3	8	400	6288793	6289336	
3	10	400	6288799	6289339	
3	12	400	6288841		6289143
3	15	400	6288845	6289368	
3	18	400	6288850	6289371	6289150
3	20	400	6288854	6289402	6289154
3	22	400	11575440		
3	25	400	6288861		
3	30	400	6288866	6289408	
4	8	400	6288874		
4	10	400	6288878	6289413	
4	12	400	6288882	6289417	
4	14	400	12095176		
4	15	400	6288885		6289225
4	16	400	11529552		
4	18	400	6288888		
4	20	400	6288892		6289232
4	22	400	11329367		
4	25	400	6288895		6289237
4	28	400	11329371		
4	30	400			6289241
4	35	400	6288905		6289244
5	12	400	6288924	6289459	
5	15	400	6288928	6289465	6289273
5	18	400		6289482	
5	20	400	6288937	6289508	6289283
5	25	400	6288944		6289286
5	30	400	6288948		6289289
5	35	400	6288952		6289292
6	20	400	6288965		

Note: For the complete programme, please see further info in the "full range" section.

## CTS BG00 / CTS BG01 / CTS BG02

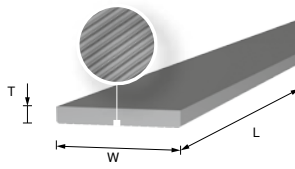
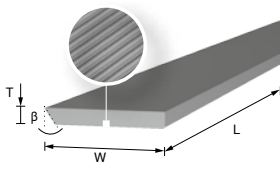
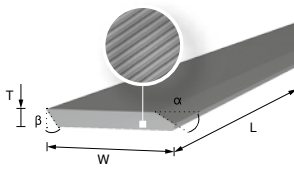
KCR18+

Groove depth [mm]	$\alpha$ [°]	$\beta$ [°]									
T [mm]	W [mm]	L [mm]	CTS BG00			CTS BG01			CTS BG02		
0.15	30	35									
2	8	400	12261227								
2	10	400	12261226								
2	12	400	12130293				12304793				
2	15	400	12130303								
2	20	400	12130297								
2	30	400	12361995								
3	7	400								12441723	
3	8	400	12130305								
3	10	400	12130281								
3	12	400	12130279				12304806				
3	13	400	12130302								
3	15	400	12130276				12304807			12304955	
3	18	400	12130294							12304956	
3	20	400	12130267							12304957	
3	25	400	12130278							12304958	
3	30	400	12130266								
3	35	400	12130264								
4	10	400	12130290							12304963	
4	12	400	12130292							12304964	
4	15	400	12130258							12304967	
4	18	400	12130299				12304824			12304970	
4	20	400	12130248							12304977	
4	23	400	12277254								
4	25	400	12130251							12304980	
4	30	400	12130253								
4	35	400	12130270							12304989	
4	40	400	12130268								
5	12	400	12130282							12304997	
5	15	400	12130252							12304999	
5	18	400	12130296								
5	20	400	12130249							12305001	
5	25	400	12130250							12305003	

Note: For the complete programme, please see further info in the "full range" section. →

**CTS BG00 / CTS BG01 / CTS BG02**

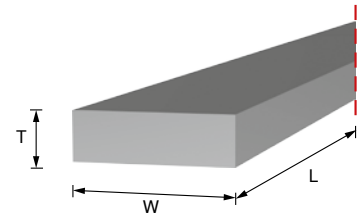
KCR18+

Groove depth [mm]	$\alpha$ [°]	$\beta$ [°]			
T [mm]	W [mm]	L [mm]	CTS BG00	CTS BG01	CTS BG02
0.15	30	35			
5	30	400	12130254		12305004
5	35	400	12130260		12305912
5	40	400	12130277		12305251
5	45	400	12295123		
6	35	400	12130300		12305255

Note: For the complete programme, please see further info in the "full range" section.

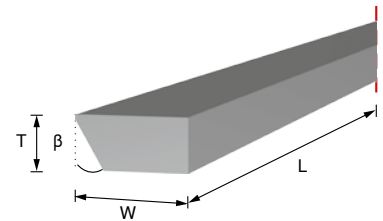
## Full range

### CTS 00



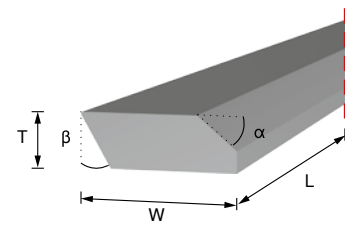
T [mm]	W [mm]	L [mm]	CTOPP10
2	3 – 19	310	•
3	3 – 31	310	•
4	4 – 40	310	•
5	5 – 20	310	•

### CTS 01



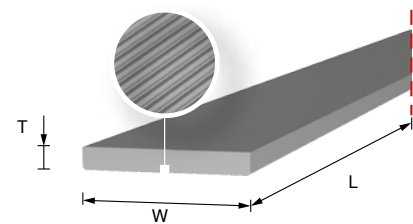
T [mm]	W [mm]	L [mm]	β [°]	CTOPP10
2	3 – 19	310	35	•
3	3 – 31	310	35	•
4	4 – 25	310	35	•
5	5 – 20	310	35	•

## CTS 02



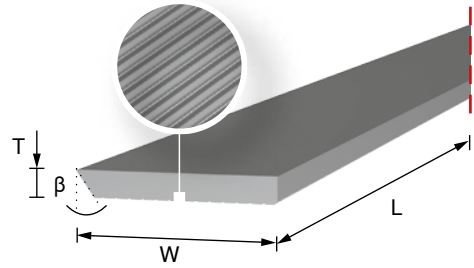
T [mm]	W [mm]	L [mm]	Groove depth [mm]	α [°]	β [°]	CTOPP10
2	3 – 19	310	0.15	30	35	•
3	3 – 31	310	0.15	30	35	•
4	4 – 40	310	0.15	30	35	•
5	5 – 20	310	0.15	30	35	•

## CTS BG00



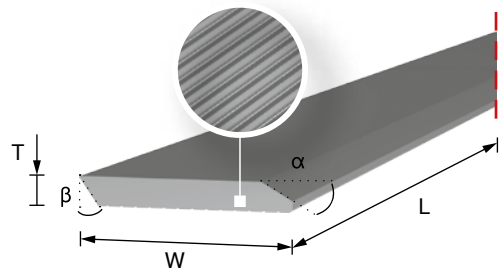
T [mm]	W [mm]	L [mm]	Groove depth [mm]	KCR06	KCR18+
2	8 – 30	400	0.15	•	•
3	8 – 35	400	0.15	•	•
4	8 – 40	400	0.15	•	•
5	10 – 40	400	0.15	•	•
6	20 – 40	400	0.15	•	•

## CTS BG01



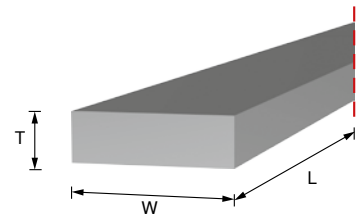
T [mm]	W [mm]	L [mm]	Groove depth [mm]	β [°]	KCR06	KCR18+
2	8 – 30	400	0.15	35	•	•
3	8 – 35	400	0.15	35	•	•
4	10 – 40	400	0.15	35	•	•
5	10 – 40	400	0.15	35	•	•
6	20 – 40	400	0.15	35	•	•

## CTS BG02



T [mm]	W [mm]	L [mm]	Groove depth [mm]	α [°]	β [°]	KCR06	KCR18+
3	10 – 35	400	0.15	30	35	•	•
4	10 – 40	400	0.15	30	35	•	•
5	10 – 40	400	0.15	30	35	•	•
6	20 – 40	400	0.15	30	35	•	•

## STB

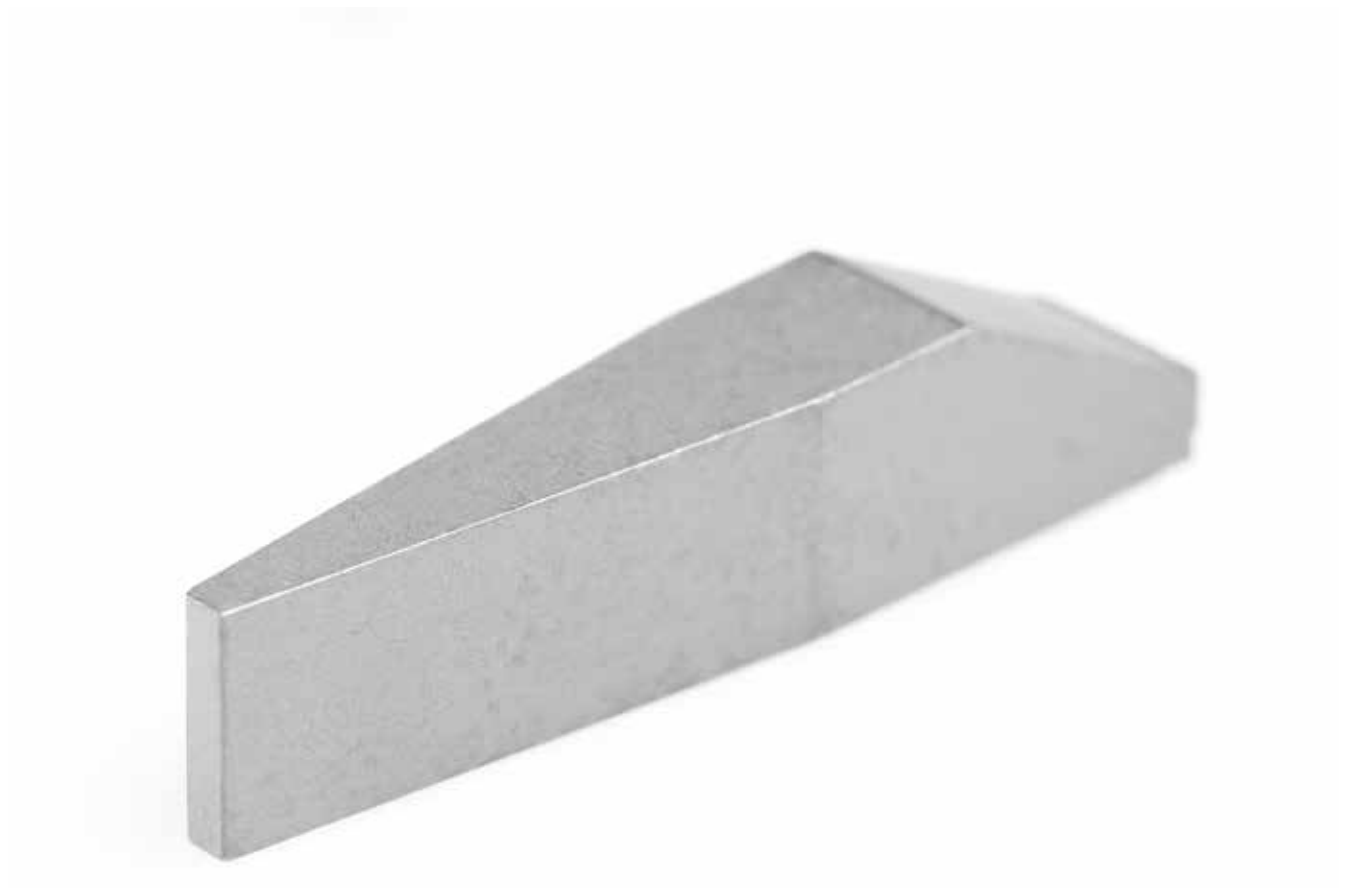


T [inch]	W [inch]	L [inch]	KCR 18+
1/16	1/4 – 1 1/4	6	•
3/32	3/16 – 1 3/4	6	•
1/8	1/4 – 1 1/2	6	•
5/32	3/8 – 2	6	•
3/16	1/4 – 1 1/2	6	•
1/4	3/8 – 1 1/4	6	•

## Blanks

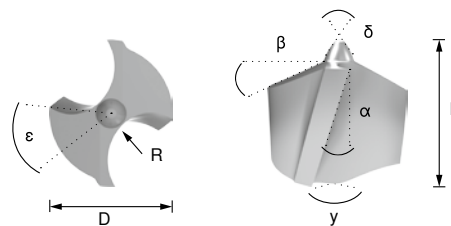
We manufacture customised blanks according to the customer's requirements. The large variety of our range includes simple geometries in high volumes, as well as very complex geometries in small batches. The production options at our disposal, coupled with our carbide grade selection, enable our customers to match their products perfectly to market requirements.

With our new cobalt surface treatment, you can benefit from easier and faster brazing. Blanks for drill tips are available in our market-leading special drilling grades, which are also fully impact and wear-resistant.



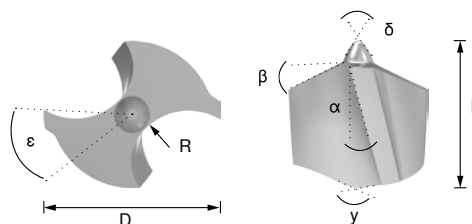


## CTDD RI



Ø [mm]	D [mm]	L [mm]	R [mm]	α [°]	β [°]	γ [°]	δ [°]	ε [°]	HC35
4.0	4.6	6.9	1.3	15	25	120	60	45	80350406
5.0	5.6	7.1	1.8	15	25	120	60	45	80050686
6.0	6.6	7.1	2.2	15	25	120	60	45	80050688
7.0	7.6	7.9	2.7	15	25	120	60	45	80050690
8.0	8.6	9.1	3.2	15	25	120	60	45	80050692
9.0	9.6	10.1	3.7	15	25	120	60	45	80050694
10.0	10.6	11.0	4.2	15	25	120	60	45	80050696
11.0	11.6	11.9	4.2	15	25	120	60	45	80050698
12.0	12.6	12.8	4.3	15	25	120	60	45	80050700
13.0	13.6	13.6	4.5	15	25	120	60	45	80050701
14.0	14.6	14.4	4.7	15	25	120	60	45	80050702
15.0	15.6	15.2	5.0	15	25	120	60	45	80050703
16.0	16.6	16.0	5.2	15	25	120	60	45	80050704
18.0	18.6	16.2	5.6	15	25	120	60	45	80050705
19.0	19.6	17.5	6.1	15	25	120	60	45	80052201
20.0	20.6	19.1	6.7	15	25	120	60	45	80050706

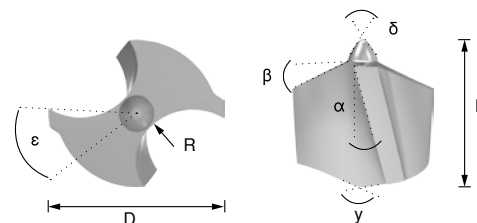
## CTDD LE



Ø [mm]	D [mm]	L [mm]	R [mm]	α [°]	β [°]	γ [°]	δ [°]	ε [°]	HC35
4.0	4.6	6.9	1.3	15	25	120	60	45	80350407
5.0	5.6	7.1	1.8	15	25	120	60	45	80050665
6.0	6.6	7.1	2.2	15	25	120	60	45	80050667
7.0	7.6	7.9	2.7	15	25	120	60	45	80050669

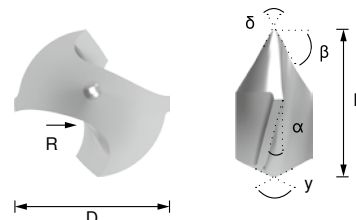


## CTDD LE



∅ [mm]	D [mm]	L [mm]	R [mm]	α [°]	β [°]	γ [°]	δ [°]	ε [°]	HC35
8.0	8.6	9.7	3.2	15	25	120	60	45	80050671
9.0	9.6	10.1	3.7	15	25	120	60	45	80050673
10.0	10.6	11.0	4.2	15	25	120	60	45	80050675
11.0	11.6	11.9	4.2	15	25	120	60	45	80050677
12.0	12.6	12.8	4.3	15	25	120	60	45	80050679
13.0	13.6	13.6	4.5	15	25	120	60	45	80050680
14.0	14.6	14.4	4.7	15	25	120	60	45	80050681
15.0	15.6	15.2	5.0	15	25	120	60	45	80050682
16.0	16.6	16.0	5.2	15	25	120	60	45	80050683
18.0	18.6	16.2	5.6	15	25	120	60	45	80050684
19.0	19.6	17.5	6.1	15	25	120	60	45	80052198
20.0	20.6	19.1	6.7	15	25	120	60	45	80050685

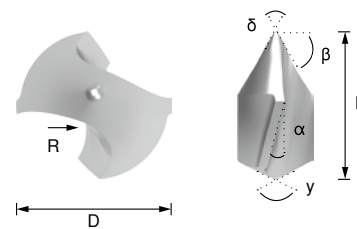
## CTDT RI



∅ [mm]	D [mm]	L [mm]	R [mm]	α [°]	β [°]	γ [°]	δ [°]	HC35
4.0	4.5	9.0	1.3	15	15	120	60	80357882
5.0	5.6	10.5	1.8	15	15	120	60	80055839
6.0	6.6	11.5	2.2	15	15	120	60	80055840
7.0	7.6	13.0	2.7	15	15	120	60	80055841
8.0	8.6	14.5	3.2	15	15	120	60	80055842
9.0	9.6	16.8	3.7	15	15	120	60	80056909
10.0	10.6	18.7	4.2	15	15	120	60	80056913
11.0	11.6	21.0	4.2	15	15	120	60	80356220

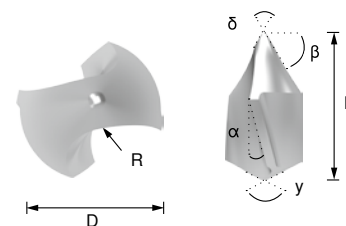


## CTDT RI



$\emptyset$ [mm]	D [mm]	L [mm]	R [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	$\delta$ [°]	HC35
12.0	12.6	22.1	4.3	15	15	120	60	80056921
13.0	13.6	24.3	4.5	15	15	120	60	80356528
14.0	14.6	25.5	4.7	15	15	120	60	80356298
15.0	15.6	26.0	5.0	15	15	120	60	80239750
16.0	16.6	27.0	5.2	15	15	120	60	80239752
18.0	18.6	28.0	5.6	15	15	120	60	80239754
20.0	20.6	33.5	6.7	15	15	120	60	80239756

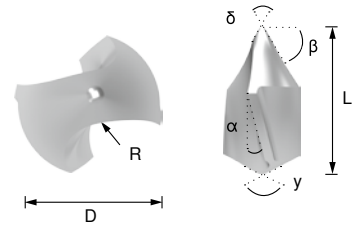
## CTDT LE



$\emptyset$ [mm]	D [mm]	L [mm]	R [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	$\delta$ [°]	HC35
4.0	4.5	9.0	1.3	15	15	120	60	80357920
5.0	5.6	10.5	1.8	15	15	120	60	80055843
6.0	6.6	11.5	2.2	15	15	120	60	80055844
7.0	7.6	13.0	2.7	15	15	120	60	80055845
8.0	8.6	14.5	3.2	15	15	120	60	80055846
9.0	9.6	16.8	3.7	15	15	120	60	80056910
10.0	10.6	18.7	4.2	15	15	120	60	80056914
11.0	11.6	21.0	4.2	15	15	120	60	80356221
12.0	12.6	22.1	4.3	15	15	120	60	80056922
13.0	13.6	24.3	4.5	15	15	120	60	80356527
14.0	14.6	25.5	4.7	15	15	120	60	80356297
15.0	15.6	26.0	5.0	15	15	120	60	80239751
16.0	16.6	27.0	5.2	15	15	120	60	80239753

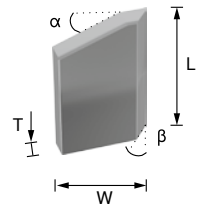


## CTDT LE



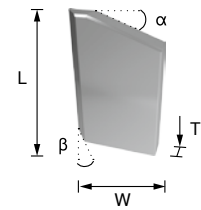
$\varnothing$ [mm]	D [mm]	L [mm]	R [mm]	$\alpha$ [°]	$\beta$ [°]	$\gamma$ [°]	$\delta$ [°]	HC35
18.0	18.6	28.0	5.6	15	15	120	60	80239755
20.0	20.6	33.5	6.7	15	15	120	60	80239757

## CTDB RI



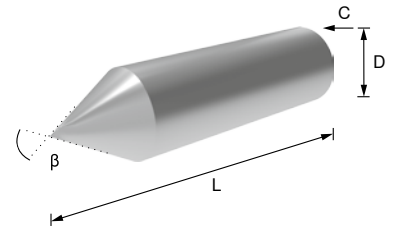
$\varnothing$ [mm]	L [mm]	W [mm]	T [mm]	$\alpha$ [°]	$\beta$ [°]	KCR10
15.0	6.5	10.5	2.5	15	30	12567164
16.0	7.0	10.5	2.5	15	30	12567166
17.0	7.5	10.5	2.5	15	30	12567168
18.0	8.0	10.5	2.5	15	30	12567170
20.0	9.0	10.5	2.5	15	30	12567171
22.0	10.0	10.5	2.5	20	40	12567173
23.0	10.5	10.5	2.5	20	40	12567174
24.0	11.0	10.5	2.5	20	40	12567176
25.0	11.5	10.5	2.5	20	40	12567178
26.0	12.0	10.5	2.5	20	40	12567179
28.0	13.0	10.5	2.5	20	40	12567180
30.0	14.0	10.5	2.5	20	40	12567182
32.0	15.0	10.5	2.5	20	40	12567185
34.0	16.0	10.5	2.5	20	40	12567186
35.0	16.5	10.5	2.5	20	40	12567187
40.0	19.0	10.5	2.5	20	40	12567189
45.0	21.5	10.5	2.5	20	40	12567190
50.0	24.0	10.5	2.5	20	40	12567192
55.0	26.5	10.5	2.5	20	40	12567193
60.0	29.0	10.5	2.5	20	40	12567196

## CTDB LE



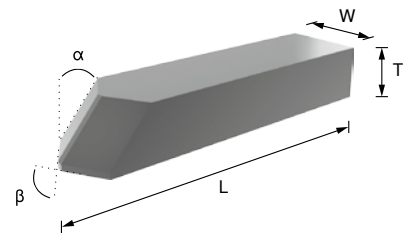
Ø [mm]	L [mm]	W [mm]	T [mm]	α [°]	β [°]	KCR10
15.0	6.5	10.5	2.5	15	30	12567198
16.0	7.0	10.5	2.5	15	30	12567199
17.0	7.5	10.5	2.5	15	30	12567200
18.0	8.0	10.5	2.5	15	30	12567202
20.0	9.0	10.5	2.5	15	30	12567203
22.0	10.0	10.5	2.5	20	40	12567204
23.0	10.5	10.5	2.5	20	40	12567206
24.0	11.0	10.5	2.5	20	40	12567207
25.0	11.5	10.5	2.5	20	40	12567209
26.0	12.0	10.5	2.5	20	40	12567210
28.0	13.0	10.5	2.5	20	40	12567212
30.0	14.0	10.5	2.5	20	40	12567213
32.0	15.0	10.5	2.5	20	40	12567216
34.0	16.0	10.5	2.5	20	40	12567217
35.0	16.5	10.5	2.5	20	40	12567219
40.0	19.0	10.5	2.5	20	40	12567220
45.0	21.5	10.5	2.5	20	40	12567221
50.0	24.0	10.5	2.5	20	40	12567222
55.0	26.5	10.5	2.5	20	40	12567224
60.0	29.0	10.5	2.5	20	40	12567225

## CTDB Z



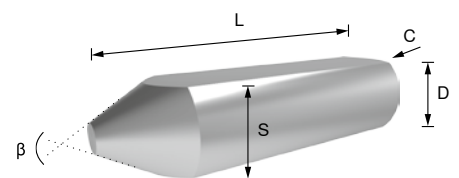
D [mm]	L [mm]	β [°]	c [mm]	Chamfer angle [°]	KCR10	HC35
3.0	11.5	60	0.5	45	12567227	12581684
3.0	13.0	60	0.5	45	12567228	12581685
3.0	14.5	60	0.5	45	12567229	12581687
4.0	13.0	60	0.5	45	12567230	12581688
4.0	15.0	60	0.5	45	12567231	12581689

## CTDB S



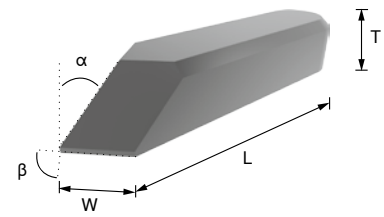
L [mm]	W [mm]	T [mm]	α [°]	β [°]	KCR10	HC35
12.0	3.0	2.5	40	120	12567232	12581690
13.0	4.0	2.5	40	120	12567233	12581691
14.0	5.0	3.0	40	120	12567234	12581692
15.0	4.0	2.5	40	120	12567235	12581693
15.0	5.0	2.5	40	120	12567239	12582981

## CTDB ZF



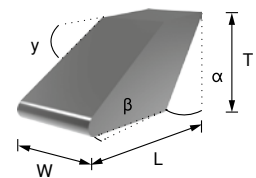
D [mm]	L [mm]	S [mm]	β [°]	c [mm]	Chamfer angle [°]	KCR10
4.0	13.0	3.0	60	0.5	45	12567241

## CTDB R



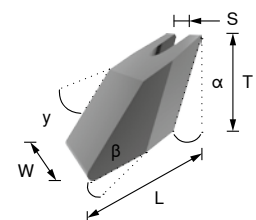
L [mm]	W [mm]	T [mm]	α [°]	β [°]	KCR10
13.0	4.0	3.0	35	90	12567242

## CTSO



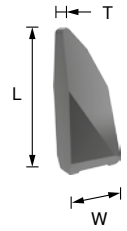
L [mm]	W [mm]	T [mm]	α [°]	β [°]	γ [°]	KCR10
12.8	6.2	5.3	47	25	11	12567243
12.8	8.2	5.3	47	25	11	12567244

## CTSM



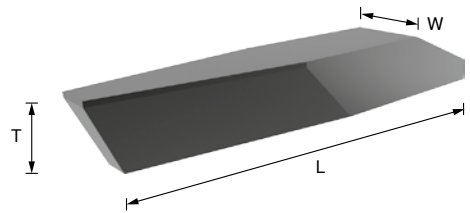
L [mm]	W [mm]	T [mm]	S [mm]	α [°]	β [°]	γ [°]	KCR10
12.8	6.2	5.4	2.0	47	25	25	12567245

## 16015



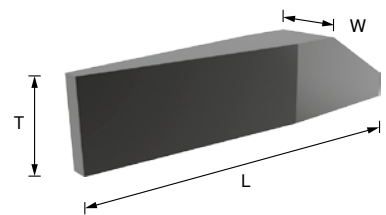
L [mm]	W [mm]	T [mm]	KCR18+
30.3	14.4	4.4	12567247

## 37800



L [mm]	W [mm]	T [mm]	KCR18+
28.0	5.0	4.0	12567250

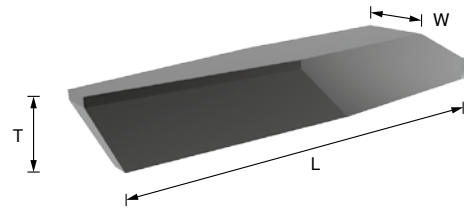
## 40330



L [mm]	W [mm]	T [mm]	KCR18+
23.5	4.5	5.0	12567251



45757



L [mm]	W [mm]	T [mm]	KCR18+
28.2	4.5	4.2	12567252
28.2	5.0	4.0	12567253

## Rods

We offer a wide range of solid carbide rods for the manufacturing of milling cutters and drills for woodworking. Rods made of submicron grades which were specially developed for wood working are able to achieve high cutting speeds along with maximum wear resistance. Whether you are machining hardwood, chipboard, MDF or HDF – we can help you choose the most suitable grade for your application. Decades of experience in extruding have enabled us to develop an economically efficient production process, so we

can offer you an excellent price-performance ratio. We have shortened the presentation of the product tables by only indicating the available ranges to provide a better overview of the great variety of our rods.

### Designation system

#### Rods

	Product	Style	Diameter [mm]	Length [mm]	Grade
Example	CTRG	W01	3.0	50.0	KCR06



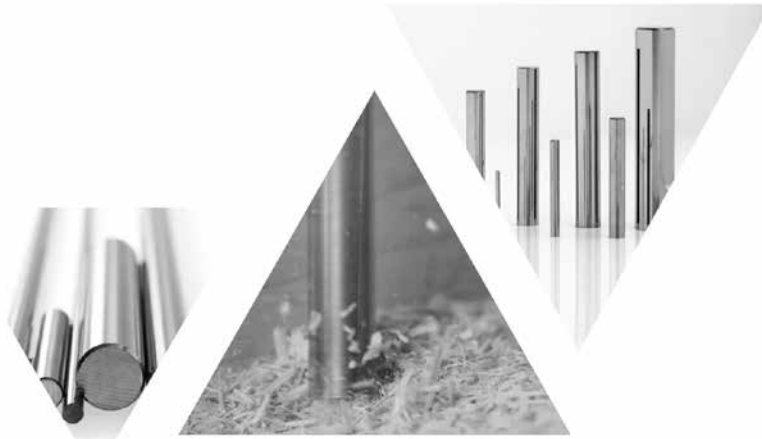


## Grade recommendation

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


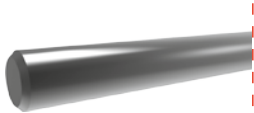


Grade	Hardwood	Softwood	Chipboard	MDF	HDF
KCR05+	• •	•	• • • •	• • • •	• • • •
KCR06	• •	• •	• • •	• • •	• • •
KCR18+	• • •	• • •	• •	• •	• •
CTOPP10	•	• •	•	•	•

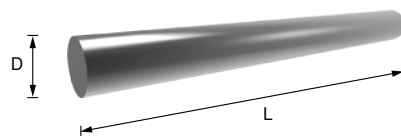


Grade	Binder	Grain size	Hardness		Fracture toughness (SEVNB) [MPa*m <sup>1/2</sup> ]	Transverse rupture strength [MPa]
			[HV10]	[HRA]		
KCR05+	3.0	ultrafine	2160	94.5	7.8	2900
KCR06	3.0	submicron	1950	93.6	8.5	2300
KCR18+	9.5	submicron	1590	91.7	10.8	3750
CTOPP10	10.0	submicron	1570	91.6	10.0	3000

## Portfolio – overview

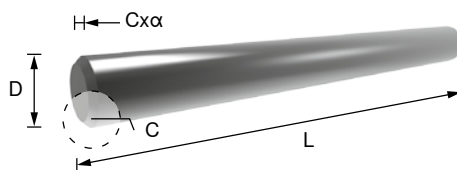
	Type, description	Most popular		Full range	
		Grade	page(s)	Grade	page(s)
 <p>Standard length without chamfer</p>	<p><b>CTRG W00</b></p>	<p>KCR05+ KCR06 KCR18+ CTOPP10</p>	<p>#N01#</p>	<p>KCR05+ KCR06 KCR18+ CTOPP10</p>	<p>#N02#</p>
 <p>Cut-to-length with one chamfer</p>	<p><b>CTRG W01</b></p>	<p>KCR06 CTOPP10</p>	<p>#N03#</p>	<p>KCR05+ KCR06 CTOPP10</p>	<p>#N04#</p>

## CTRG W00 – ground, h6 [mm]



L [mm]	D [mm]	KCR05+	KCR06	KCR18+	CTOPP10
330	2.0		11331962		
330	3.0				11723520
330	4.0			12549614	11723525
330	5.0				11723527
330	6.0	11908009	11332643	12549627	11723529
330	8.0	11908012	11332648		11723533
330	10.0	11908015	11332655	12549641	
330	12.0	11908016	11332659	12549677	
330	13.0				11723491
330	14.0	11908018		12549680	11723493
330	16.0		11282333		11723497
330	18.0			12549685	11723501
330	20.0		11332676	12549688	11723505
330	25.0				11723514
330	32.0				11723524

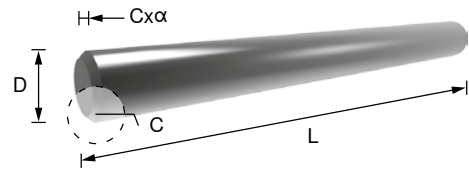
## CTRG W01 – ground, h6 [mm]



D [mm]	L [mm]	C [mm]	α [°]	KCR06	CTOPP10
3.0	50.0	0.3	45	11330783	11723539
4.0	50.0	0.4	45		11723579
4.0	55.0	0.4	45	11330790	
5.0	50.0	0.4	45		11723581

Note: For the complete programme, please see further info in the "full range" section.

## CTRG W01 – ground, h6 [mm]

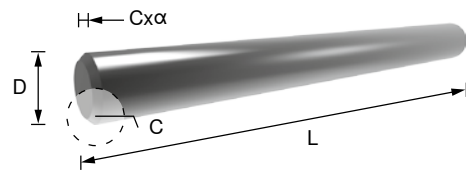


D [mm]	L [mm]	C [mm]	α [°]	KCR06	CTOPP10
5.0	55.0	0.4	45	11330802	
5.0	60.0	0.4	45	11330806	11723583
6.0	50.0	0.4	45		11723585
6.0	60.0	0.4	45	11330956	11723586
6.0	80.0	0.4	45		11723589
8.0	60.0	0.6	45	11331150	11723593
8.0	70.0	0.6	45	11331155	11723540
8.0	80.0	0.6	45	11331157	11723541
8.0	100.0	0.6	45		11886616
10.0	70.0	0.6	45	11331170	11723549
10.0	75.0	0.6	45	11331174	11723550
10.0	80.0	0.6	45	11331177	11723551
10.0	100.0	0.6	45		11723543
10.0	110.0	0.6	45		11990139
12.0	70.0	0.6	45		11981408
12.0	80.0	0.6	45	11331281	11723558
12.0	90.0	0.6	45	11331283	11723559
12.0	100.0	0.6	45	11331284	11723555
14.0	100.0	0.6	45		11723561
14.0	110.0	0.6	45	11331333	11723562
16.0	90.0	0.6	45		11823358
16.0	100.0	0.6	45		11723565
16.0	110.0	0.6	45		11723566
16.0	120.0	0.6	45		11723567
20.0	100.0	0.6	45		11723573
20.0	115.0	0.6	45		11898849
20.0	120.0	0.6	45	11331368	11723575
20.0	130.0	0.6	45		11723576
20.0	135.0	0.6	45		11898850

Note: For the complete programme, please see further info in the "full range" section.



## CTRG W01 – ground, h6 [inch]

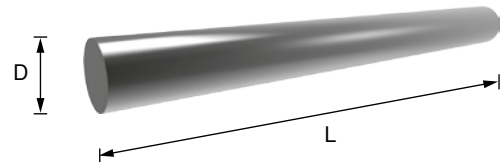


D [inch]	L [inch]	C [inch]	$\alpha$ [°]	KCR06	CTOPP10
1/4	2	1/40	45	11331709	11774107
1/4	2 1/2	1/40	45	11248640	11774108
3/8	2 1/2	1/40	45	11248641	
3/8	3	1/40	45	11248643	
3/8	3 1/4	1/40	45	11811276	
1/2	3	3/100	45	11248631	11774096
1/2	3 1/2	3/100	45	11248633	

Note: For the complete programme, please see further info in the "full range" section.

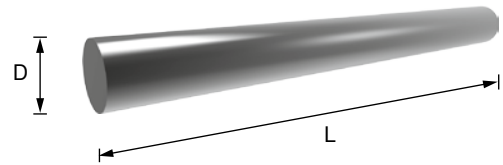
## Full range

### CTRG W00 – ground rods, h6 [mm]



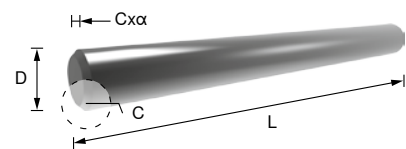
	L [mm]	KCR05+	KCR06	KCR18+	CTOPP10
2 – 32	330	•	•	•	•

### CTRG W00 – ground, h6 [inch]



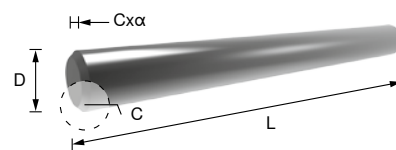
D [inch]	L [inch]	KCR06	KCR18+	CTOPP10
1/4	13	•	•	•
5/16	13	•	•	•
3/8	13	•	•	•
1/2	13	•	•	•
5/8	13	•	•	•
3/4	13	•	•	•

### CTRG W01 – ground, h6 [mm]



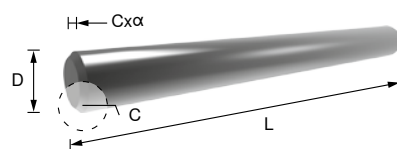
D [mm]	L [mm]	C [mm]	$\alpha$ [°]	KCR05+	KCR06	CTOPP10
2	50	0.2	45	•	•	•
3	39 – 55	0.3	45	•	•	•
4	38 – 60	0.4	45	•	•	•
5	40 – 80	0.4	45	•	•	•

## CTRG W01 – ground, h6 [mm]



D [mm]	L [mm]	C [mm]	$\alpha$ [°]	KCR05+	KCR06	CTOPP10
6	25 – 100	0.4	45	•	•	•
7	49 – 55	0.5	45	•	•	•
8	34 – 110	0.6	45	•	•	•
10	49 – 120	0.6	45	•	•	•
11	80 – 90	0.6	45	•	•	•
12	70 – 130	0.6	45	•	•	•
13	115	0.6	45	•	•	•
14	70 – 160	0.6	45	•	•	•
16	70 – 185	0.6	45	•	•	•
18	100 – 170	0.6	45	•	•	•
20	80 – 170	0.6	45	•	•	•
25	100 – 200	0.6	45	•	•	•

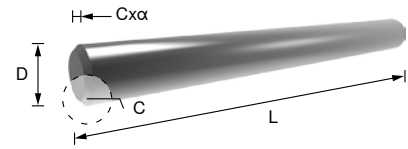
## CTRG W01 – ground, h6 [inch]



D [inch]	L [inch]	C [inch]	$\alpha$ [°]	KCR05+	KCR06	CTOPP10
3/16	2 1/2	1/40	45		•	
1/4	2	1/40	45		•	
1/4	2 1/2	1/40	45			•
1/4	3	1/40	45		•	
1/4	3	1/40	45			•
1/4	3 3/8	1/40	45			•
1/4	3 1/2	1/40	45		•	
1/4	4	1/40	45		•	



## CTRG W01 – ground, h6 [inch]

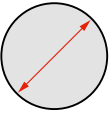


D [inch]	L [inch]	C [inch]	α [°]	KCR05+	KCR06	CTOPP10
1/4	4 1/4	1/40	45			•
5/16	2 1/2	1/40	45		•	
5/16	3	1/40	45		•	
5/16	6	1/40	45		•	
3/8	2	1/40	45			•
3/8	2 1/2	1/40	45		•	
3/8	3	1/40	45	•		
3/8	3 1/4	1/40	45		•	
3/8	3 1/2	1/40	45			•
3/8	4	1/40	45		•	
7/16	4 1/2	3/100	45		•	
1/2	2 1/2	3/100	45			•
1/2	3	3/100	45		•	
1/2	3 1/4	3/100	45			•
1/2	3 1/2	3/100	45			•
1/2	4	3/100	45	•		
1/2	4 1/16	1/40	45		•	
1/2	4 1/2	3/100	45		•	
1/2	5	3/100	45		•	
1/2	5 1/2	3/100	45			•
9/16	4	3/100	45		•	
5/8	3	3/100	45			•
5/8	4	3/100	45			•
5/8	4 1/2	3/100	45		•	
5/8	6 1/2	3/100	45		•	
3/4	4	1/25	45		•	
3/4	4 3/4	1/25	45			•
3/4	5	1/25	45		•	
3/4	6	1/25	45			•

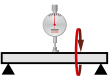
## Specifications

### CTRG W00

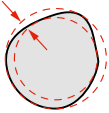
#### Outside diameter

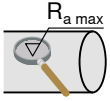

Ground	Outside diameter [mm]	Tolerance h6 [mm]
	1.0 – 3.0	+0/-0.006
	3.1 – 6.0	+0/-0.008
	6.1 – 10.0	+0/-0.009
	10.1 – 18.0	+0/-0.011
	18.1 – 30.0	+0/-0.013
	30.1 – 40.0	+0/-0.016

#### Straightness

Ground	Outside diameter [mm]	max. deflection h6 [mm]
	1.0 – 2.9	1.2
	3.0 – 5.9	0.15
	6.0 – 7.9	0.12
	8.0 – 9.9	0.10
	10.0 – 11.9	0.08
	12.0 – 19.9	0.05
	20.0 – 40.0	< 0.05

#### Roundness

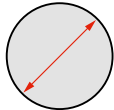
Ground	Outside diameter [mm]	Tolerance RGI h6 [mm]
	1.0 – 3.0	0.003
	3.1 – 6.0	0.004
	6.1 – 10.0	0.005
	10.1 – 30.0	0.006
	30.1 – 40.0	0.008

Executions	Surface finish		Length	
	$R_{a\max}$ [μm]	Ground		Tolerance [mm]
	Ground	0.4		± 5

## Specifications

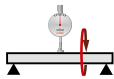
### CTRG W01

#### Outside diameter



Outside diameter [mm]	Tolerance h6 [mm]
1.0 – 3.0	+0/-0.006
3.1 – 6.0	+0/-0.008
6.1 – 10.0	+0/-0.009
10.1 – 18.0	+0/-0.011
18.1 – 30.0	+0/-0.013
30.1 – 40.0	+0/-0.016

#### Roundness



Outside diameter [mm]	Tolerance h6 [mm]
1.0 – 3.0	0.003
3.1 – 6.0	0.004
6.1 – 10.0	0.005
10.1 – 25.0	0.006

#### Run-out RGMC



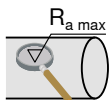
Outside diameter [mm]	max. concentricity [μm] starting length [mm]		
	30 – 65	65 – 80	80 – 120
1.5 – < 6	8	8	15
6 – < 50	3	5	10

#### Length



Designation	Total length tolerance [mm]
RGMC	+ 1%

#### Surface finish



$R_{a\max}$ [μm]
0.4



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