

Composition and properties

CERATIZIT grade code	ISO code	U.S. code	Binder [m %]	Density [g/cm ³]	Hardness			Transverse rupture strength		Fracture toughness (SEVNB) [MPa*m ^{1/2}]
					HV10	HV30	HRA	[MPa]	[P.S.I.]	

Nano-grades

UMG04	K01	C4	2,2	15,30	2500	2400	96,0	3200	464000	5,4
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Ultrafine grades

SMG02	K01	C4	2,4	15,25	2300	2200	95,2	3500	508000	5,7
HE40	K40	N/A	20,0	13,15	1250	1240	88,8	3500	508000	12,1

Submicron grain

KCR08	N/A	N/A	4,2	15,20	1920	1885	93,4	2300	331000	8,7
MG18	K20	C2	10,0	14,45	1680	1660	92,3	3700	537000	9,4
CTOPP10	N/A	N/A	10,0	14,45	1570	1550	91,6	3000	435000	N/A

Fine grain grades

HC05	K10	C3	4,0	15,15	1730	1700	92,5	2200	319000	8,7
HC20	K20	C2-C3	6,0	15,00	1640	1620	92,1	2200	319,000	9,9

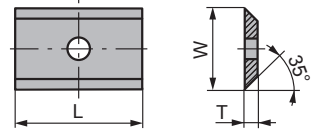
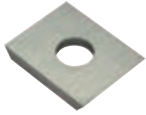
Medium grain grades

HC35	K30	C1	9,0	14,60	1400	1380	90,3	2800	335000	10,9
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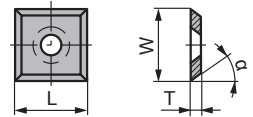
Comment:

1. The data in this table are typical material parameters. We reserve the right to modify the data due to technical progress or due to further development within our company.

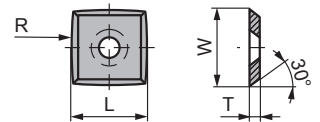
2. K_{IC}^* : The measured critical tension intensity factors (K_{IC}) depend to a high degree on the sample geometry and sample preparation. A direct comparison with parameters which have been determined by means of a different method is therefore not admissible.

EL CTK ST..


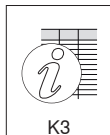
L [mm]	W [mm]	T [mm]	CTOPP10	
9.6	12.0	1.5	11791000	
15.0	12.0	1.5	11791001	
20.0	12.0	1.5	11791002	
30.0	12.0	1.5	11742547	
40.0	12.0	1.5	11791003	
50.0	12.0	1.5	11742544	
60.0	12.0	1.5	11791004	

EL CTK SC


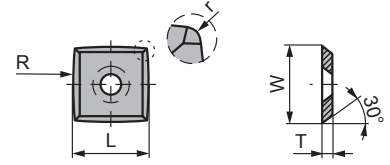
L [mm]	W [mm]	T [mm]	CTOPP10	
14.0	14.0	2.0	11742545	

EL CTK SC..R


L [mm]	W [mm]	T [mm]	R [mm]	CTOPP10	
15.0	15.0	2.5	95	11778838	
15.0	15.0	2.5	115	11789902	
15.0	15.0	2.5	150	11789899	

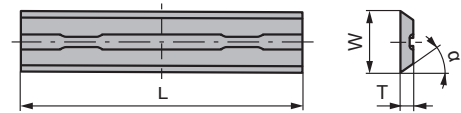


EL CTK SC..R r0.5

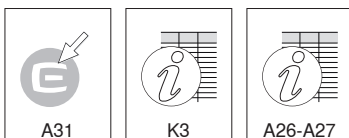


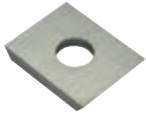
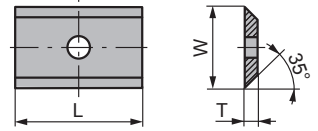
L [mm]	W [mm]	T [mm]	R [mm]	r [mm]	CTOPP10
15.0	15.0	2.5	95	0.5	11827619
15.0	15.0	2.5	115	0.5	11827617
15.0	15.0	2.5	150	0.5	11827613

EL CTK PK..



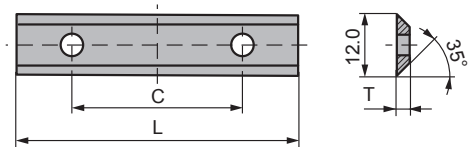
L [mm]	W [mm]	T [mm]	CTOPP10
75.5	5.5	1.1	11871695
80.5	5.9	1.2	11871691
82.0	5.5	1.1	11801133



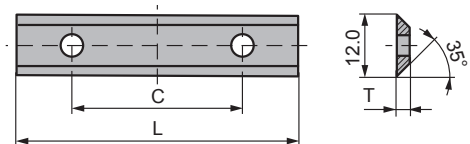
CTK ST

 Easy Line
see page(s)


L [mm]	W [mm]	T [mm]	α [°]	UMG04	SMG02	KCR08	HC05
7.5	12.0	1.5	35			80360013	80330647
9.6	12.0	1.5	35		80358956	80360014	80330652
10.5	12.0	1.5	35			80360015	80239369
11.0	12.0	1.5	35			80360016	80239370
13.0	12.0	1.5	35			80360017	80239371
15.0	12.0	1.5	35		80358308	80360018	80330640
15.7	12.0	1.5	35			80360019	80239372
17.0	12.0	1.5	35			80360020	80331564
18.0	12.0	1.5	35			80360021	80239368
19.0	12.0	1.5	35			80360022	80331565
20.0	12.0	1.5	35	80358633	80330673	80358831	80330641
24.7	12.0	1.5	35			80360023	80239680

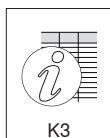
CTK ST

 Easy Line
see page(s)


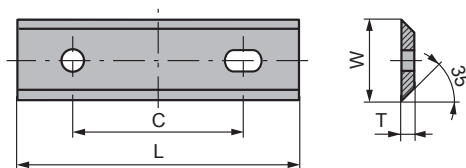
L [mm]	W [mm]	T [mm]	C [mm]	UMG04	SMG02	KCR08	HC05
24.7	12.0	1.5	14			80360024	80239681
30.0	12.0	1.5	14	80358634	80330674	80358833	80330642
40.0	12.0	1.5	26	82009287	80358316	80360025	80330649
50.0	12.0	1.5	26	80358635	80330675	80358835	80330643
60.0	12.0	1.5	26		80358317	80360026	80330644

CTK ST


L [mm]	W [mm]	T [mm]	C [mm]	HC05	MG18
30.0	12.0	2.5	14	82015043	82028333

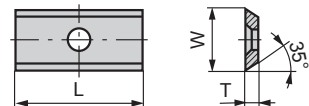
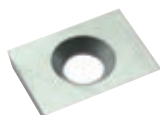


CTK ST

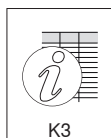


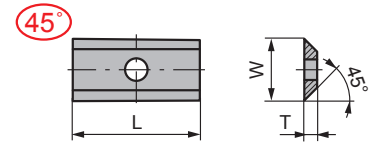
L [mm]	W [mm]	T [mm]	C [mm]	KCR08	
80.0	13.0	2.2	60	80360069	
100.0	13.0	2.2	60	80360084	
120.0	13.0	2.2	60	80360085	

CTK ST.. SH

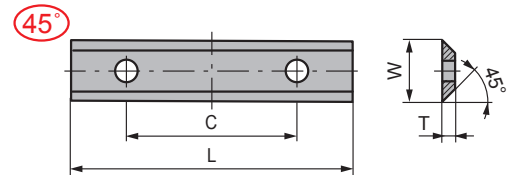


L [mm]	W [mm]	T [mm]	SMG02	
20.0	14.3	2.5	82030290	

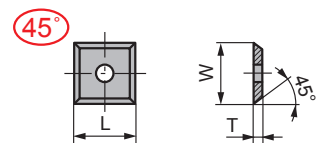
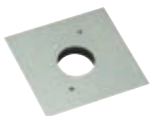


CTK ST.. 45°


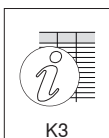
L [mm]	W [mm]	T [mm]	MG18	
7.5	12.0	1.5	80330520	
15.0	12.0	1.5	80330522	
20.0	12.0	1.5	80330523	
24.7	12.0	1.5	80332389	

CTK ST.. 45°


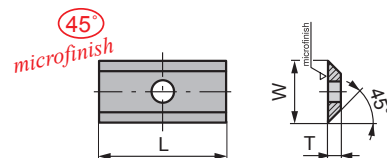
L [mm]	W [mm]	T [mm]	C [mm]	MG18	
30.0	12.0	1.5	14	80330524	
40.0	12.0	1.5	26	80330525	
50.0	12.0	1.5	26	80330526	
60.0	12.0	1.5	26	80330527	

CTK FC.. 45°


L [mm]	W [mm]	T [mm]	MG18	
12.0	12.0	1.5	80330521	

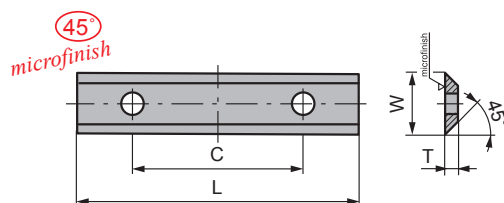


CTK ST.. MIC45°



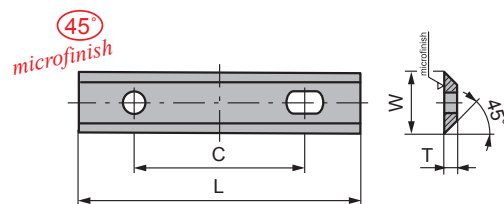
L [mm]	W [mm]	T [mm]	MG18	HE40
9.6	12.0	1.5	80359051	80359044
15.0	12.0	1.5	80330537	80359045
20.0	12.0	1.5	80330538	80357973

CTK ST.. MIC45°

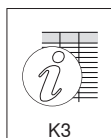


L [mm]	W [mm]	T [mm]	C [mm]	MG18	HE40
30.0	12.0	1.5	14	80330539	80357974
40.0	12.0	1.5	26	80330540	80359046
50.0	12.0	1.5	26	80330541	80357975
60.0	12.0	1.5	26	80330542	80359047

CTK ST.. MIC45°



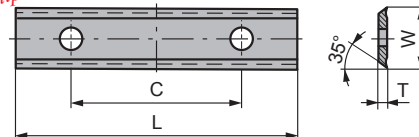
L [mm]	W [mm]	T [mm]	C [mm]	MG18	HE40
80.0	13.0	2.2	60	80359052	80359048



KNIVES

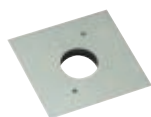
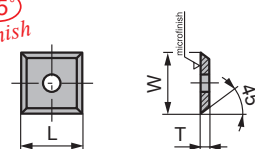
STANDARD 45° – MICROFINISH

CTK ST.. CB


with chip breaker


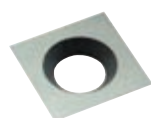
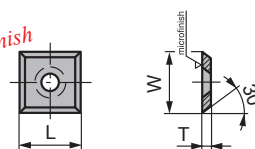
L [mm]	W [mm]	T [mm]	C [mm]	HE40
20.0	12.0	1.5	0	80357984
30.0	12.0	1.5	14	80357985
50.0	12.0	1.5	26	80357986

CTK FC.. MIC45°

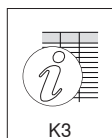

*45°
microfinish*


L [mm]	W [mm]	T [mm]	MG18	HE40
12.0	12.0	1.5	80330536	80359049

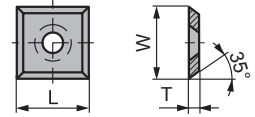
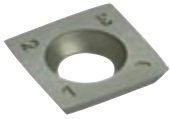
CTK SC.. MIC


microfinish


L [mm]	W [mm]	T [mm]	MG18	HE40
14.0	14.0	2.0	80332257	80359050

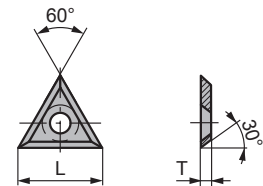


CTK SC..



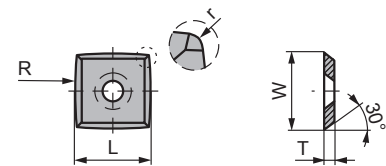
L [mm]	W [mm]	T [mm]	SMG02	KCR08	HC05	MG18	HC35
10.5	10.5	1.5				80330882	
13.0	13.0	2.5				80357494	82001035
13.4	13.4	1.5					80332547
13.6	13.6	2.0					80239418
14.0	14.0	1.2					80330669
14.0	14.0	1.7					80331749
14.0	14.0	2.0	80332539	80359802	80332394	80239725	80330668
14.6	14.6	2.5		11444230			
15.0	15.0	2.5	82018721	82022498	82018719		
15.0	15.0	2.5				82001124	
15.0	15.0	2.5			82018720		

CTK SC.. 3CUT



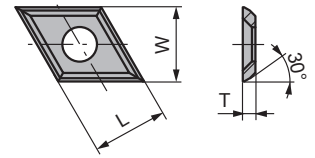
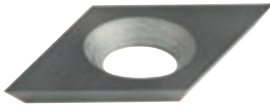
L [mm]	T [mm]	α [°]	MG18
22.0	2.0	30	80239466

CTK SC..R

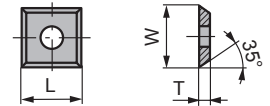
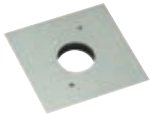


L [mm]	W [mm]	T [mm]	R [mm]	KCR08	HC05	MG18
15.0	15.0	2.5	115		82003329	82023168
15.0	15.0	2.5	115	82019711		
15.0	15.0	2.5	150		11281810	11225484

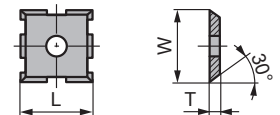


CTK SC.. RHO


L [mm]	T [mm]	α [°]	HC05	
14.0	2.0	30.0	80332377	

CTK FC..


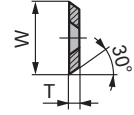
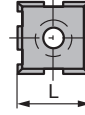
L [mm]	W [mm]	T [mm]	β [°]	SMG02	KCR08	HC05	
10.5	10.5	1.5	35		80360027		
12.0	12.0	1.5	35	80358314	80360030	80330657	
15.0	15.0	2.0	35		11235079		
17.0	17.0	2.0	35		80360028	80239386	
19.0	19.0	2.0	35		80360029	80239387	

CTK FC.. CB


L [mm]	T [mm]	α [°]	MG18	
15.0	2.0	30	80239392	

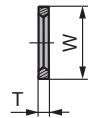
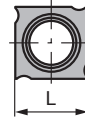


CTK FC.. CB/SH

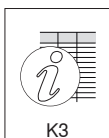


L [mm]	T [mm]	α [°]	MG18	
15.0	2.0	30	82009817	

CTK GR..



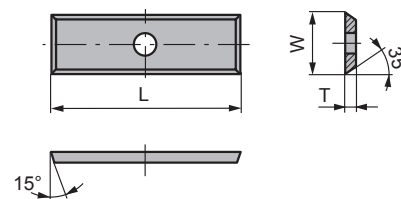
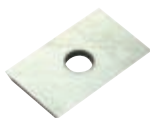
L [mm]	W [mm]	T [mm]	HC20	
14.0	14.0	2.0	80359032	
14.0	14.0	2.5	80332764	
14.0	14.0	3.0	80359033	
18.0	18.0	1.95	80330658	
18.0	18.0	2.5	80330659	
18.0	18.0	2.95	80331492	
18.0	18.0	3.7	80239391	
18.0	18.0	4.0	80331493	



KNIVES

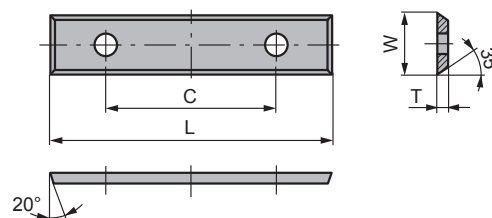
4 CUTTING EDGES

CTK FC..



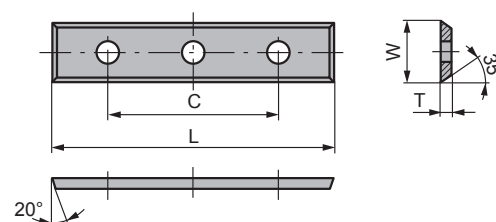
L [mm]	W [mm]	T [mm]	SMG02	HC05
9.0	12.0	1.5		80239376
10.0	12.0	1.5		80239374
19.5	12.0	1.5	80359075	

CTK FC..

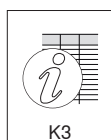


L [mm]	W [mm]	T [mm]	α [°]	UMG04	SMG02	KCR08	HC05
29.0	12.0	1.5	35				80330711
29.5	12.0	1.5	35	80359079	80359076	80360082	80331886
29.5	9.0	1.5	35			80360081	80331173
49.5	12.0	1.5	35				80331887
49.5	12.0	1.5	35	80359080	80359077	80360089	
49.2	9.0	1.5	35				80359034
49.5	9.0	1.5	35			80360083	
59.2	12.0	1.5	35				80359035
59.5	12.0	1.5	35		80359078		

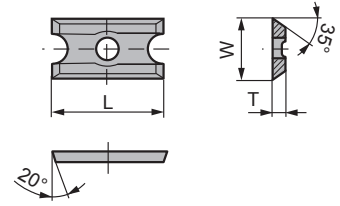
CTK FC.. 3H



L [mm]	W [mm]	T [mm]	C [mm]	SMG02	KCR08	HC05
50.0	12.0	1.7	37	82004411	80358958	80419334

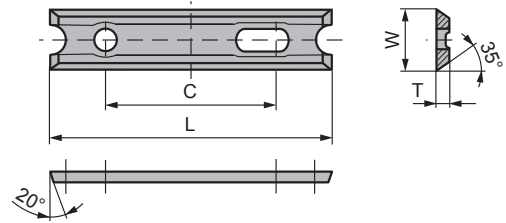


CTK ECO.. FC

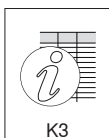


L [mm]	W [mm]	T [mm]	KCR08	
19.5	12.0	1.5	11507903	

CTK ECO.. FC



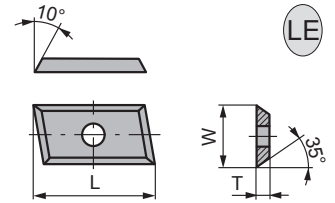
L [mm]	W [mm]	T [mm]	C [mm]	KCR08	
29.5	12.0	1.5	14	11507905	
49.5	12.0	1.5	26	11507910	



KNIVES

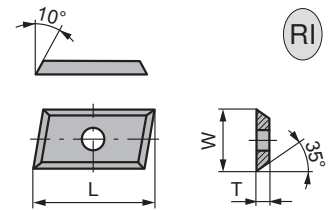
SLANTING KNIVES/BOSSED

CTK SK.. LE..°



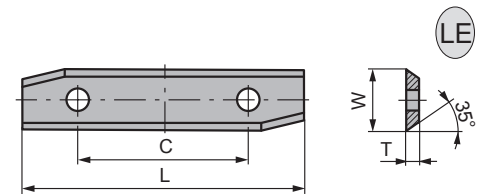
L [mm]	W [mm]	T [mm]	KCR08	HC05
19.5	12.0	1.5	80360076	80239367

CTK SK.. RI..°

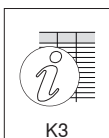


L [mm]	W [mm]	T [mm]	KCR08	HC05
19.5	12.0	1.5	80360075	80239366

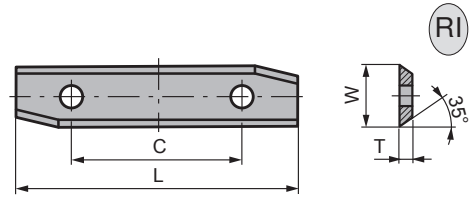
CTK SK.. LE..°



L [mm]	W [mm]	T [mm]	C [mm]	KCR08	HC05
29.5	12.0	1.5	14	80360071	80330648
49.5	12.0	1.5	26	80360073	80359036

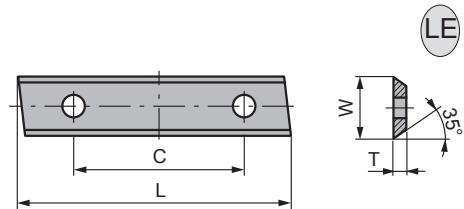


CTK SK.. RI..°



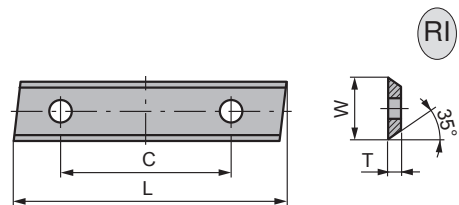
L [mm]	W [mm]	T [mm]	C [mm]	KCR08	HC05
29.5	12.0	1.5	14	80360070	80239365
49.5	12.0	1.5	26	80360072	80359037

CTK SK.. LE..°

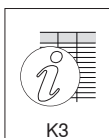


L [mm]	W [mm]	T [mm]	C [mm]	KCR08	HC05
29.5	12.0	1.5	14	80360077	80330646
49.5	12.0	1.5	26	80360079	80239361

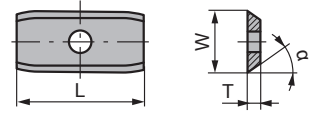
CTK SK.. RI..°



L [mm]	W [mm]	T [mm]	C [mm]	KCR08	HC05
29.5	12.0	1.5	14	80360078	80330645
49.5	12.0	1.5	26	80360080	80239360

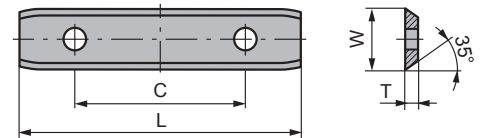


CTK ST.. BO



L [mm]	W [mm]	T [mm]	α [°]	HC05	
20.0	12.0	1.5	35	80359038	
24.0	12.0	1.5	40	82000067	
24.7	12.0	1.5	40	80334040	

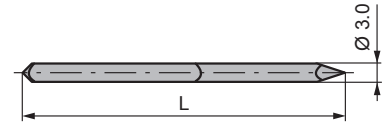
CTK ST.. BO



L [mm]	W [mm]	T [mm]	α [°]	HC05	
30.0	12.0	1.5	35	80357890	
50.0	12.0	1.5	35	80357892	
40.0	12.0	1.5	35	82018841	

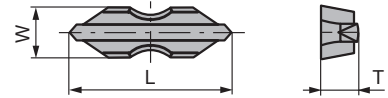


CTK CP..



L [mm]	D [mm]		HC35	
33.5	3.0		80162624	

CTK SC..



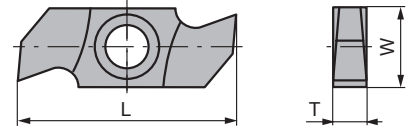
L [mm]	W [mm]	T [mm]	HC20	
18.0	6.0	3.5	80360002	



KNIVES

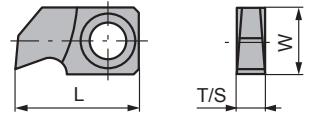
GROOVING KNIVES

CTK GR..



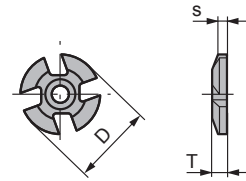
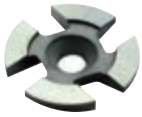
L [mm]	W [mm]	T [mm]	HC35	
34.0	16.0	3.2	80239830	
34.0	16.0	4.0	80239831	
34.0	16.0	5.0	80239832	

CTK GR..



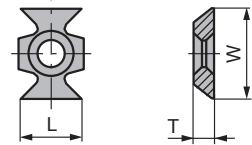
L [mm]	W [mm]	T [mm]	MG18	
24.5	13.0	4.0	80357834	
24.5	13.0	5.0	80358124	

CTK CH..



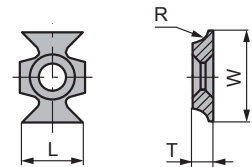
T [mm]	D [mm]	S [mm]	HC20
4.6	25.0	2.8	80239567

CTK CH.. 45°



L [mm]	W [mm]	T [mm]	HC20
16.0	22.0	5.0	80330575

CTK CH.. R



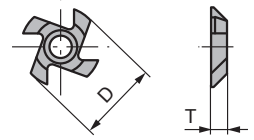
L [mm]	W [mm]	T [mm]	HC20
16.0	22.0	5.0	80359041
16.0	22.0	5.0	80330576
16.0	22.0	5.0	80330577
16.0	22.0	5.0	80330579
16.0	22.0	5.0	80330578
16.0	22.0	5.0	80333980
16.0	22.0	5.0	80359042



KNIVES

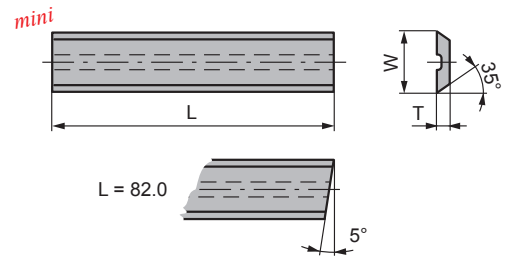
CHAMFER BREAKING TIPS AND CHAMFERING KNIVES

CTK CH.. RI/LE



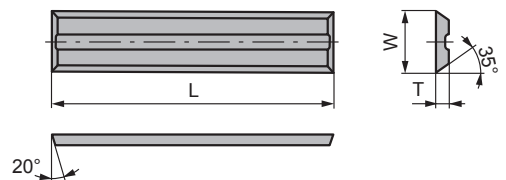
	D [mm]	T [mm]	HC20	
RI	25.0	5.0	80239423	
LE	25.0	5.0	80239424	

CTK MK..FG



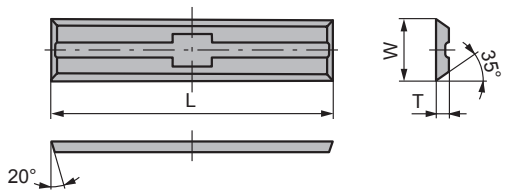
L [mm]	W [mm]	T [mm]	HC05
12.0	5.5	1.1	80330662
20.0	5.5	1.1	80330660
30.0	5.5	1.1	80331568
40.0	5.5	1.1	80330661
50.0	5.5	1.1	80239396
60.0	5.5	1.1	80359040

CTK MK..BG



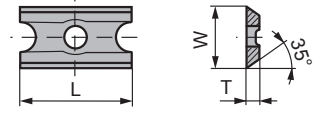
L [mm]	W [mm]	T [mm]	HC05
12.0	5.5	1.1	80239398

CTK MK..BCG

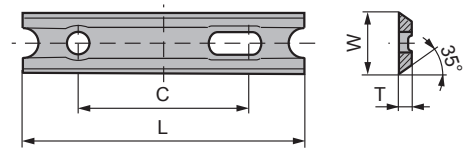


L [mm]	W [mm]	T [mm]	HC05
20.0	4.1	1.1	80331404
20.0	5.5	1.1	80331406
25.0	5.5	1.1	80331408
30.0	5.5	1.1	80331407
40.0	5.5	1.1	80331381
50.0	5.5	1.1	80331409



CTK ECO..


L [mm]	W [mm]	T [mm]	KCR08	
20.0	12.0	1.5	80359581	

CTK ECO..


L [mm]	W [mm]	T [mm]	C [mm]	KCR08	
30.0	12.0	1.5	14	80359561	
50.0	12.0	1.5	26	80359562	