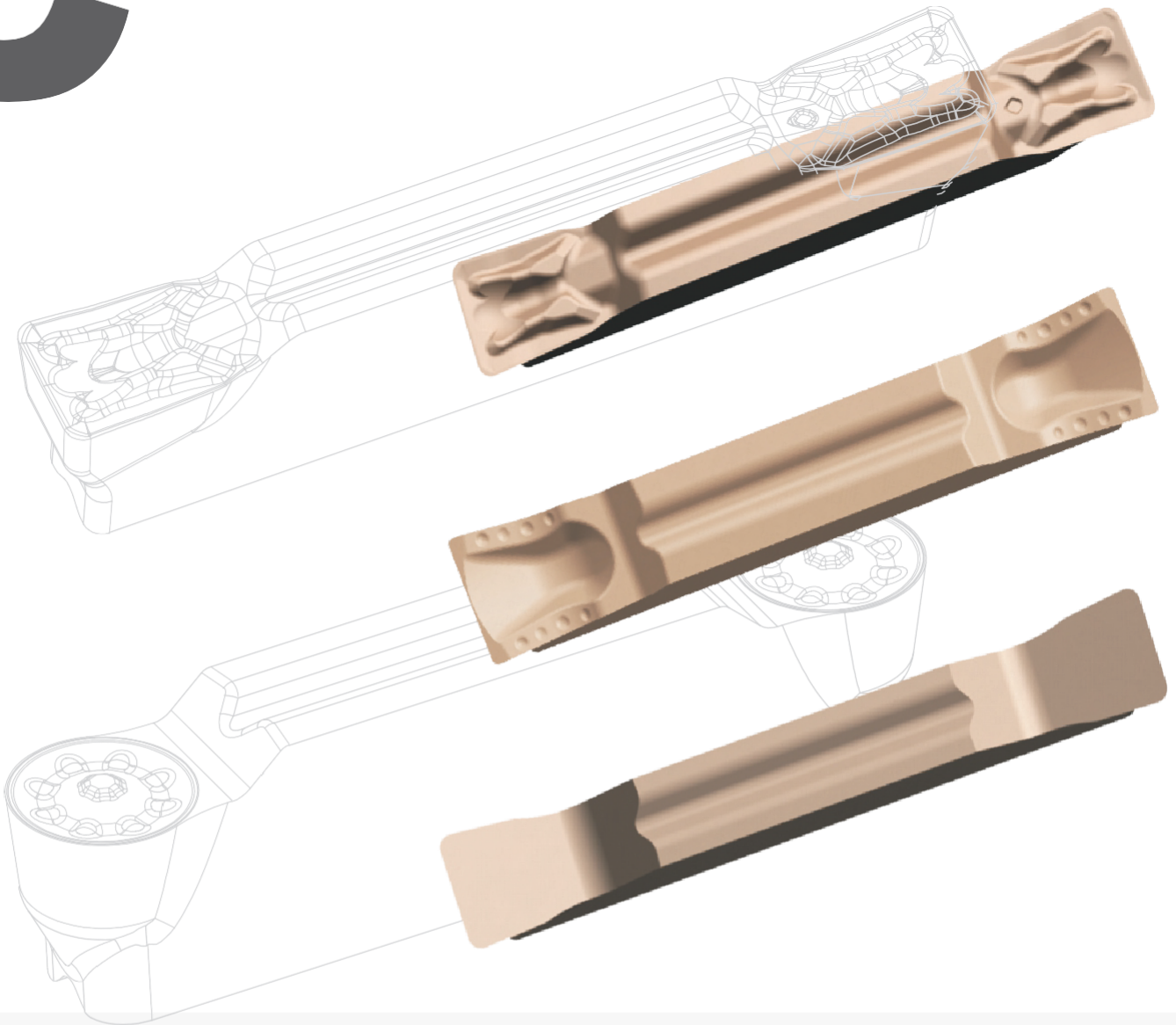
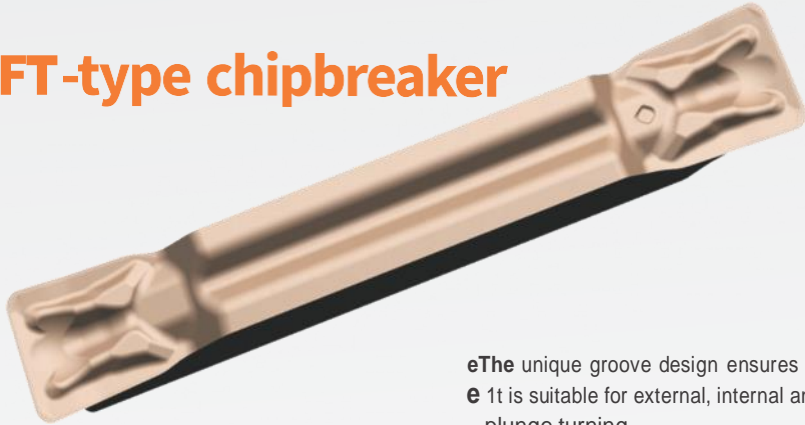


# C



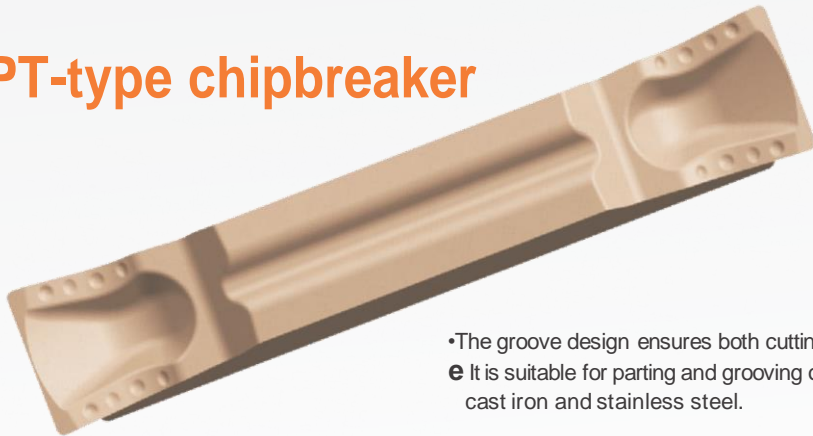
# GROOVING & PARTING

## FT-type chipbreaker



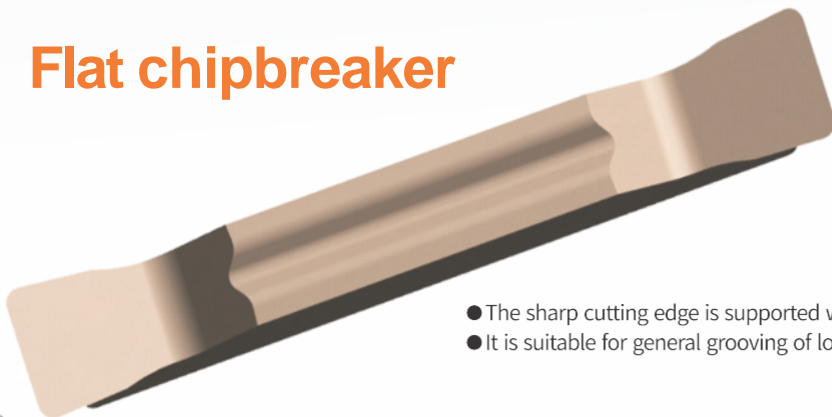
- The unique groove design ensures good chip control.
- It is suitable for external, internal and end face grooving as well as plunge turning.
- Stronger cutting edge design.

## PT-type chipbreaker



- The groove design ensures both cutting edge strength and sharpness;
- It is suitable for parting and grooving of carbon steel, alloy steel and cast iron and stainless steel.

## Flat chipbreaker



- The sharp cutting edge is supported with lower cutting resistance.
- It is suitable for general grooving of low hardness materials.

### Code key of grooving inserts



@Insert type	
Code	Type
KD	Parting insert
KC	Grooving insert
KP	Profile insert

@Tolerance class	
Code	Standard
M	M-class tolerance
K	K-class tolerance
E	E-class tolerance

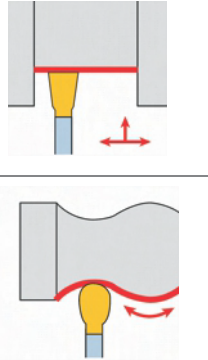
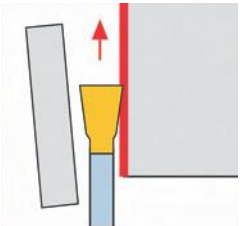
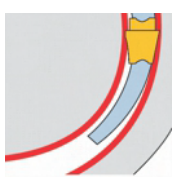
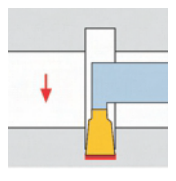
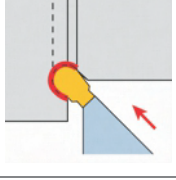
@Cutting edge count	
Code	Number of cutting edges
A	Single edge
B	Double edge
C	Triple edge

@Cutting edge width	
Code	Insert width (mm)
25	2.50
30	3.00
40	4.00
50	5.00
60	6.00

® Corner radius	
Code	Corner radius (mm)
00	0.00
02	0.20
03	0.30
04	0.40
08	0.80

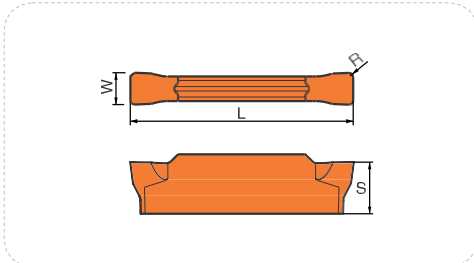
®Chipbreaker groove	
Default	Flat
FT	FT-type groove
PT	PT-type groove
RT	RT-type groove
AL	AL-type groove

### Overview of parting and grooving tools

Machining form	Diagram	Applicable tools	Applicable inserts	Features
External grooving and plunge turning		MGEH	KTMB KPMB KPEB	<ul style="list-style-type: none"> <li>The multi-purpose cutting tool is compatible with different inserts such as grooving, profile and parting inserts.</li> <li>The insert can produce either pressing groove or grinding groove, which meet different machining requirements.</li> <li>The maximum groove depth is 20mm.</li> <li>With a profiling insert, it can be used to machines a variety of materials.</li> </ul>
Parting		MGEH	KTMB	<ul style="list-style-type: none"> <li>With our parting inserts, it can be used to cut and process various materials.</li> <li>Maximum parting diameter: 60mm.</li> </ul>
End face grooving and plunge turning		MGEH	KTMB	<ul style="list-style-type: none"> <li>The multi-purpose cutting tool is compatible with different inserts such as grooving, profiling and parting inserts.</li> <li>Groove depth: 10-20mm.</li> </ul>
Internal grooving and turning		MGIV	KTMB KPMB	<ul style="list-style-type: none"> <li>The multi-purpose cutting tool is compatible with different inserts such as grooving, profile and parting inserts.</li> <li>Minimum inscribed circle diameter for machining: 25mm.</li> <li>Maximum groove depth: 6mm.</li> </ul>
Relief groove machining		MGEU	KTMB KPMB	<ul style="list-style-type: none"> <li>The 45° cutting tool structure shall complete a variety of forms of relief groove machining.</li> <li>Maximum vertical depth of the relief groove: 3.3mm.</li> </ul>

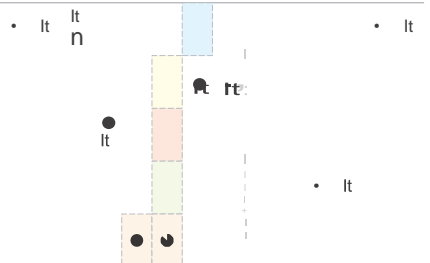
# Parting and grooving insert

Working condition: • Stable It Average n Tough



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- Steel
- Stainless steel
- Castiron
- Non-ferrous metal
- Heat-resistant alloy  
Titanium alloy

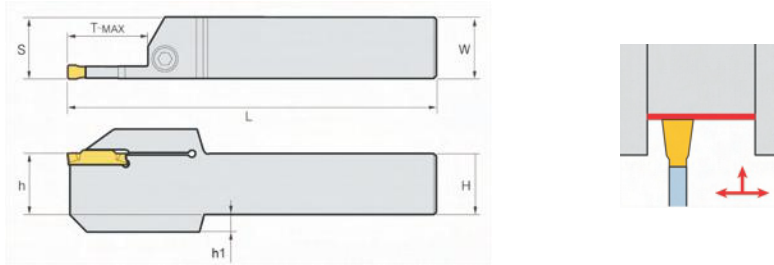


Machining type	Insert shape	Type	Basic dimension (mm)				CVD				PVD				Cemented C carbide			
			L	W	S	R	U	N	U	N	U	N	U	N	U	N	Z	1
Parting and grooving		KTMB1502-PT	16.0	1.5	3.50	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB2002-PT	16.0	2.0	3.55	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB3002-PT	21.0	3.0	4.86	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB4002-PT	21.0	4.0	4.86	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB5003-PT	26.0	5.0	5.80	0.3	●	●	●	●	●	●	●	●	●	●	●	●
Grooving		KTKB2002	16.0	2.0	3.55	0.2	●	●	●	●	○	○	○	○	○	○	○	○
		KTKB3004	21.0	3.0	4.86	0.4	●	●	●	●	○	○	○	○	○	○	○	○
		KTKB4004	21.0	4.0	4.86	0.4	●	●	●	●	○	○	○	○	○	○	○	○
		KTKB5008	26.0	5.0	5.80	0.8	●	●	●	●	○	○	○	○	○	○	○	○
Grooving and plunge turning		KTMB2002-FT	16.0	2.0	3.55	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB2502-FT	18.5	2.5	3.90	0.2	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB3004-FT	21.0	3.0	4.86	0.4	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB4004-FT	21.0	4.0	4.86	0.4	●	●	●	●	●	●	●	●	●	●	●	●
		KTMB5008-FT	26.0	5.0	5.80	0.8	●	●	●	●	●	●	●	●	●	●	●	●

● Stock ○ Available upon order



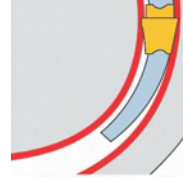
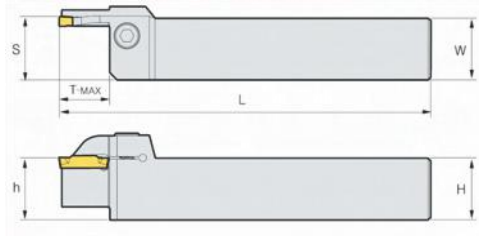
## External grooving and parting tools










Type		Basic dimension (mm)						Screw	Wrench	Applicable inserts	
		Inventory	H=h	W	L	S	HL				T-MAX
MGEHL/R	1212-2-T0S	0	12	12	100	12.2		8	HHA0512	WR40L	KTMB KTKB KPMB KPEB
	1616-2-T0S	●	16	16	100	16.2		8			
	2020-2-T0S	●	20	20	125	20.2		8			
	2525-2-T0S		25	25	150	25.2		8			
	1616-2-TI2	0	16	16	100	16.2		12			
	2020-2-TI2	●	20	20	125	20.2		12			
	2525-2-TI2		25	25	150	25.2		12			
	1616-2.5-TI7	0	16	16	100	16.3		17			
	2020-2.5-TI7	0	20	20	125	20.3		17			
	2525-2.5-TI7	0	25	25	150	25.3		17			
	1616-3-TI0	●	16	16	100	16.4		10			
	2020-3-TI0	●	20	20	125	20.4		10			
	2525-3-TI0		25	25	150	25.4		10			
	1616-3-TI3	●	16	16	100	16.4		13			
	2020-3-TI3	●	20	20	125	20.4		13			
	2525-3-TI3		25	25	150	25.4		13			
	1616-3-T20	0	16	16	100	16.4		20			
	2020-3-T20	0	20	20	125	20.4		20			
	2525-3-T20	●	25	25	150	25.4		20			
	2020-4-TI0	●	20	20	125	20.4		10			
	2525-4-TI0		25	25	150	25.4		10			
	3232-4-TI0	0	32	32	150	32.4		10			
	2020-4-TI5	0	20	20	125	20.4		15			
	2525-4-TI5	0	25	25	150	25.4		15			
2020-4-T20	0	20	20	125	20.4		20				
2525-4-T20	0	25	25	150	25.4		20				
3232-4-T20	0	32	32	170	32.4		20				

estock ○ Available upon order

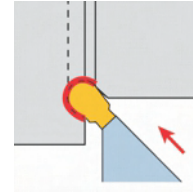
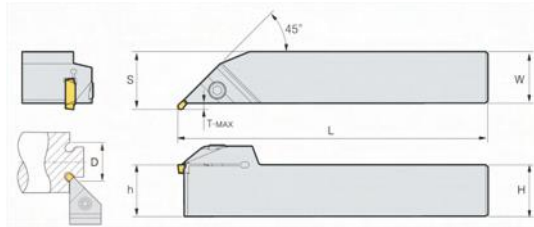
### face grooving tool



Type		Basic dimension (mm)						<PD		Screw	Wrench	Applicable inserts
		Inventory	H=h	W	L	S	T-MAX	Min	Max			
MGFHL/R	325-34/50-T10		25	25	150	25.5	10	34	50	HHA0512	WR40L	KTMB
	325-44/70-T15		25	25	150	25.5	15	44	70			
	325-64/100-T15	0	25	25	150	25.5	15	64	100			
	425-40/60-T10		25	25	150	25.6	10	40	60			
	425-44/70-T20		25	25	150	25.6	20	44	70			
	425-84/92-T20		25	25	150	25.6	20	84	92			
	425-60/120-T20		25	25	150	25.6	20	60	120			
	425-112/200-T20		25	25	150	25.6	20	112	200			
	525-190/220-T10		25	25	150	25.6	10	190	200			
	625-170/190-T10	0	25	25	150	25.6	10	170	190			
625-190/220-T10	0	25	25	150	25.6	10	190	200				

 Stock  Available upon order

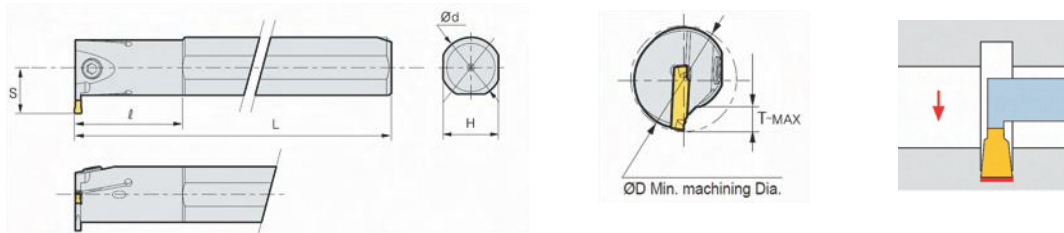
## Relief groove tool



Type		Basic dimension (mm)							Screw	Wrench	Applicable inserts
		Inventory	H=h	W	L	S	ΦD Max	T-MAX			
MGEUR/L	2020-3	○	20	20	125	23	40	2.8	HHA0512	WR40L	KTMB KPMB
	2525-3	●	25	25	150	28	40	2.8			
	3232-3	○	32	32	170	35	40	2.8			
	2020-4	●	20	20	125	23	40	2.8	HHA0616	WR50L	
	2525-4	●	25	25	150	28	40	2.8			
	3232-4	○	32	32	170	35	40	2.8			
	2020-5	●	20	20	125	23.5	50	3.3			
	3232-5	○	32	32	170	35.5	50	3.3			
	2020-6	●	20	20	125	23.5	50	3.3			
	2525-6	●	25	25	150	28.5	50	3.3			

● Stock ○ Available upon order

### Internal grooving tools



Type		Basic dimension (mm)								Screw	Wrench	Applicable inserts
		Inventory	c>D	c>d	L	Q	T-MAX	H	S			
MGIVR/L	2516-2	0	25	16	125	35	6.5	15	14	HHB0410	WR30L	KTMB KPMB
	2520-2	0	25	20	150	45	6.5	18	15.5	HHA0512	WR40L	
	3225-2	0	32	25	200	45	7	23	19			
	2516-2.5	●	25	16	125	35	6.5	15	14	HHB0410	WR30L	
	2520-2.5		25	20	150	45	6.5	18	15.5	HHA0512	WR40L	
	3225-2.5	●	32	25	200	45	7	23	19			
	2520-3		25	20	150	45	6.5	18	15.5	HHB0410	WR30L	
	3225-3	0	32	25	200	45	7	23	19	HHA0512	WR40L	
	4032-3	●	40	32	250	55	7.5	30	22.5	HHA0616	WR50L	
	2520-4		25	20	150	45	6.5	18	15.5	HHB0410	WR30L	
	3225-4	0	32	25	200	45	7	23	19	HHA0512	WR40L	
	4032-4	0	40	32	250	55	7.5	30	22.5	BHA0616	WR50L	
	3225-5	0	32	25	200	45	7.5	23	19.5	HHA0512	WR40L	
	4032-5	●	40	32	250	55	8.5	30	23.5	BHA0616	WR50L	
	3225-6		32	25	200	45	7.5	23	19.5	HHA0512	WR40L	
4032-6	0	40	32	250	55	8.5	30	23.5	BHA0616	WR50L		

● Stock ○ Available upon order

### Cutting speed recommendations for parting and grooving

ISO	Classification of materials		Hardness of Brinell (HB)	Tensile strength (N/mm <sup>2</sup> )	Cutting Speed Recommendations (m/min)												
					SC5225			SP4125			SP4225			SC3115			
					Feed (mm/rev)												
		0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	
<b>P</b>	Non-alloyed steel	C's0.25% Annealing	125	428	280	200	130	260	180	120	260	180	120				
		0.25<C's0.55% Annealing	190	639	240	160	115	220	150	105	200	140	105				
		0.25<C's0.55% Quenching and tempering	210	708	130	115	100	120	110	100	120	110	100				
		C>0.55% Annealing	190	639	145	130	115	130	120	110	130	120	110				
		C>0.55% Quenching and tempering	300	1013	115	100	80	110	95	70	110	95	70				
		Short chip steel Annealing	220	745	130	115	100	120	105	90	120	105	90				
	Low-alloyed steel	Annealing	175	591	280	200	130	170	135	120	170	135	120				
		Quenching and tempering	300	1013	115	100	80	105	90	70	105	90	70				
		Quenching and tempering	380	1282	170	90	70	160	80	60	160	80	60				
		Quenching and tempering	430	430													
	High-alloyed steel and high alloy tool steel	Annealing	200	675													
		Quenching and tempering	300	1013													
		Quenching and tempering	400	1361													
<b>M</b>	Stainless steel	Ferrite/martensite, annealing	200	675				200	150	105	200	150	105				
		Martensite, quenching and tempering	330	1114				150	115	70	150	115	70				
	Stainless steel	Austenite, quenching	200	675				165	135	105	185	155	125				
		Austenite, precipitation hardening stainless steel (PH stainless steel)	300	1013				155	120	80	165	135	95				
		Austenite-ferrite, duplex stainless steel	230	778				135	110	85	145	110	85				
<b>K</b>	Malleable cast iron	Ferrite	200	400											160	80	
		Pearlite	260	700											220	115	90
	Grey cast iron	Low tensile strength	180	200													65
		High tensile strength/austenite	245	350											280	150	95
	Ductile iron	Ferrite	155	400											160	130	95
		Pearlite	265	700											145	110	80
	Compacted graphite iron GGV (CGI)		230	400											150	120	90

Notes: 1. Cutting parameters are suitable for wet cutting.

2. For internal and section machining, it is recommended to reduce the cutting speed by 30%-50% Precautions for Parting and Grooving:

