

Endmill for stainless steel machining

S-Star Endmill

KORLOY
TECH-NEWS



- Stable machinability minimizing unexpected chipping from optimal cutting edge design for stainless steel cutting
- High performance in stainless steel series, titanium and nickel cutting from applying new coating with high oxidation resistance and hardness

Endmill for stainless steel machining

S-Star Endmill

Stainless steel is widely used not only in daily life but also in various industries because it has high corrosion resistance and smooth surface. Stainless steel reduces tool life as it has characteristics like high work hardening, high shear resistance and high tendency of chip's welding on a tool. Therefore, it is recommended to use exclusive tools for effective stainless steel machining.

S-S Endmill dramatically increased wear resistance and welding resistance than existing tool through applying high toughness substrate and new coating layer with wear resistance, oxidation resistance and high hardness. In

addition, the optimal cutting edge minimizes cutting load and chattering for stainless steel cutting and reduces fracture due to unexpected chipping.

KORLOY recommends **S-S Endmill** not only for stainless steel cutting but general cuttings with titanium, nickel, Inconel and hard-to-cut materials for your high productivity.



Good chipping resistance

- Strong cutting edge and high toughness substrate

Lower cutting load and better chip evacuation

- Uneven flute spacing and R-type gash shape
- High rake angle and streamlined chip pocket

Higher welding resistance and wear resistance

- AlCrN series coating layer

Good surface finish

- Added finishing flute

Code system

S	R	5	1	4	120	03	H
S-Star Endmill	Type E: Flat R: Radius B: Ball F: Roughing	Grade 5: Grade	Length Shank type 0: standard 1: Straight Neck	No. of flute (2-7 flute)	Tool dia. 120: 12 mm (1 - 20 mm)	Corner radius 03: 0,3 mm (0,1 - 2,0 mm)	Helix Type H: high helix

Features



Applying high toughness substrate

- Chipping resistance and stable cutting from applying high toughness substrate



Applying different width and size of AlCrN based layer

- Applying multi layers
- Increased lubrication due to containing Cr
- Ensured stability against frictional heat
- Secured wear resistance from thicker coating layer

Cutting edge treatment

- Improved chipping resistance in the beginning of cutting
- Better wear resistance and stable cutting
- High quality of product from cutting edge treatment



Additional finishing edge

- Enhanced surface finish due to increased 1st O.D grinding roughness
- High quality cutting edge and good welding resistance

Uneven flute spacing / R gash

- High chip evacuation through R gash shape
- Stability in shouldering machining

Tool selection guide

U-Star Endmill ^{new}		S-Star Endmill ^{new} Super Endmill for Ti ^{new}		Super Endmill for HRSA ^{new} Super Endmill for Ti ^{new} S-Star Endmill ^{new}		H-Star Endmill ^{new}		A-Star Endmill		D Endmill		Composite Router Endmill ^{new}	
P	K	M	S		H		N						
Carbon steel Alloy steel	Cast iron	Stainless steel	Inconel718, Waspaloy, Hastelloy		Titanium		High hardened alloy	Non-ferrous	Graphite	Composite materials (CFRP/GFRP)			

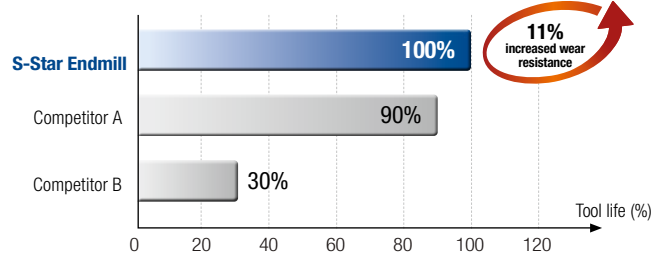
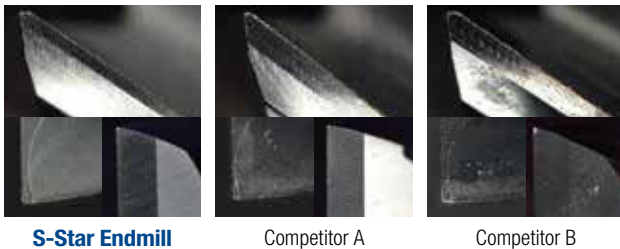
Line-up

Type	Picture	Picture	Product name	No. of flute	Dia. (Ø)	
					Min.	Max.
Flat	SE502		2 flutes flat Endmill	2	1	20
	SE503		3 flutes flat Endmill	3	1	20
	SE504		4 flutes flat Endmill	4	1	20
	SE506		6 flutes flat Endmill	6	6	20
Radius	SR504		4 Schneiden Radius VHM Fräser	4	1	20
	SR505		5 flutes nick type radius Endmill	5	6	20
	SR507		7 flutes nick type radius Endmill	7	6	20
Ball	SB502		2 flutes ball Endmill	2	1	12
	SB504		4 flutes ball Endmill	4	3	20
Roughing	SF51H		3-5 flutes roughing Endmill	3-5	3	20

Application examples

Stainless steel (X5CrNiMo17-12-2)

- **Cutting conditions** $vc = 60 \text{ m/min} \cdot fz = 0,03 \text{ mm/t} \cdot ap = 9,0 \text{ mm} \cdot ae = 0,6 \text{ mm} \cdot \text{wet (WKSS)}$
- **Tool** **Endmill** SE504060 (4F Ø6 Flat Endmill)

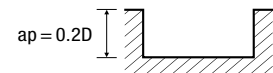
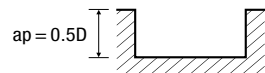


Recommended cutting conditions - SE502 Flat

Slotting

Workpiece	Carbon steel, Alloy steel, Tool steel				Stainless steel 300 Series	
	-HRC30		HRC30-45			
	Conditions	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)
Dia. (Ø)						
1,0	13000	220	9800	160	21000	170
1,2	12500	210	9000	150	17500	140
1,5	12000	200	8300	140	14000	110
2,0	11560	190	7560	120	10500	85
2,5	10240	200	6560	130	8500	70
3,0	8920	210	5560	140	8000	65
4,0	7560	300	4620	180	7500	75
5,0	6300	320	3780	190	6000	80
6,0	5560	350	3360	220	5000	80
8,0	4200	380	2520	200	3750	90
10,0	3260	330	2000	160	3000	90
12,0	2740	280	1680	130	2500	95
14,0	2470	250	1520	120	2150	100
16,0	2200	220	1360	110	1880	105
18,0	1940	195	1210	95	1670	110
20,0	1680	170	1060	80	1500	115

Application tip depth of cut



Recommended cutting conditions - SE503 Flat

Slotting

Workpiece	Carbon steel, Alloy steel, Tool steel						Cast iron	Stainless steel	Copper alloy	Ti-Alloy		Ti-Alloy				
	-HRC20		-HRC20 - 30		HRC30-45					U/min	Feed	U/min	Feed	U/min	Feed	
	U/min	Feed	U/min	Feed	U/min	Feed										
Conditions	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Dia. (Ø)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)
1,0	30000	1000	23000	800	16500	450	20000	500	16500	350	25000	360	16500	380	6500	100
1,5	20000	1000	15500	800	11000	450	13000	500	11000	350	16500	360	11000	380	4500	100
2,0	15000	1000	11500	800	8200	450	10000	500	8400	350	12500	360	8200	380	3500	100
2,5	12000	1000	9400	800	7500	450	8000	500	6500	350	10000	360	6500	380	2600	100
3,0	10080	950	7750	740	5550	395	6700	520	5550	350	8300	360	5550	395	2200	100
4,0	7550	1400	5850	1100	4200	595	5050	550	4200	320	6200	400	4200	595	1650	105
5,0	6000	1500	4700	1200	3300	650	4000	600	3300	350	5000	420	3300	600	1400	120
6,0	5050	1650	3850	1250	2800	700	3350	660	2800	370	4100	440	2800	700	1150	130
8,0	3750	1700	2950	1330	2100	710	2500	665	2100	375	3100	500	2100	710	850	120
10,0	3050	1650	2300	1250	1650	665	2000	630	1350	355	2500	530	1650	665	650	120
12,0	2500	1500	2000	1200	1350	605	1650	570	1350	320	2000	550	1350	605	555	110
14,0	2150	1550	1700	1200	1200	605	1450	580	1200	250	1700	600	1200	605	500	110
16,0	1850	1600	1450	1250	1000	650	1250	600	1000	200	1500	650	1000	610	400	115
18,0	1650	1650	1300	1300	920	700	1100	620	900	150	1300	700	900	615	350	120
20,0	1500	1700	1150	1350	840	750	1000	640	800	100	1200	750	800	620	320	125

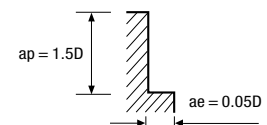
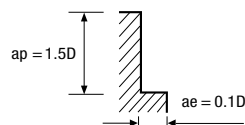
Application tip depth of cut



Shouldering

Workpiece	Carbon steel, Alloy steel, Tool steel						Cast iron	Stainless steel	Copper alloy	Ti-Alloy		Ti-Alloy				
	-HRC20		-HRC20 - 30		HRC30-45					U/min	Feed	U/min	Feed	U/min	Feed	
	U/min	Feed	U/min	Feed	U/min	Feed										
Conditions	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Dia. (Ø)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)
1,0	30000	1000	23000	800	16500	450	20000	500	16500	350	25000	360	16500	380	6500	100
1,5	20000	1000	15500	800	11000	450	13000	500	11000	350	16500	360	11000	380	4500	100
2,0	15000	1000	11500	800	8200	450	10000	500	8400	350	12500	360	8200	380	3500	100
2,5	12000	1000	9400	800	7500	450	8000	500	6500	350	10000	360	6500	380	2600	100
3,0	10080	950	7750	740	5550	395	6700	520	5550	350	8300	360	5550	395	2200	100
4,0	7550	1400	5850	1100	4200	595	5050	550	4200	320	6200	400	4200	595	1650	105
5,0	6000	1500	4700	1200	3300	650	4000	600	3300	350	5000	420	3300	600	1400	120
6,0	5050	1650	3850	1250	2800	700	3350	660	2800	370	4100	440	2800	700	1150	130
8,0	3750	1700	2950	1330	2100	710	2500	665	2100	375	3100	500	2100	710	850	120
10,0	3050	1650	2300	1250	1650	665	2000	630	1350	355	2500	530	1650	665	650	120
12,0	2500	1500	2000	1200	1350	605	1650	570	1350	320	2000	550	1350	605	555	110
14,0	2150	1550	1700	1200	1200	605	1450	580	1200	250	1700	600	1200	605	500	110
16,0	1850	1600	1450	1250	1000	650	1250	600	1000	200	1500	650	1000	610	400	115
18,0	1650	1650	1300	1300	920	700	1100	620	900	150	1300	700	900	615	350	120
20,0	1500	1700	1150	1350	840	750	1000	640	800	100	1200	750	800	620	320	125

Application tip depth of cut

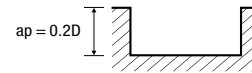
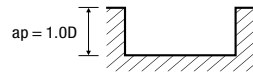


Recommended cutting conditions - SE504 Flat / SR504 Radius

Slotting

Workpiece	Alloy steel, Cast iron		Stainless steel 300 series		Stainless steel 400 series		Titanium		Inconel	
	-HB230		U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Conditions	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Dia. (Ø)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)
1,0	40,500	300	20,000	250	28,000	160	23,925	225	9330	60
1,5	27,000	300	13,000	180	18,500	160	15,730	185	6135	50
2,0	20,300	300	10,000	150	14,000	160	12,010	165	4685	45
2,5	16,200	300	8,000	120	11,000	165	9,490	155	3700	40
3,0	13,500	275	6,690	105	9,350	145	8,045	135	3135	35
4,0	10,100	370	5,050	135	7,000	185	6,005	195	2340	50
5,0	8,090	410	4,050	165	5,600	230	4,815	360	1875	60
6,0	6,750	480	3,350	190	4,700	265	4,030	415	1570	70
8,0	5,050	620	2,500	250	3,500	340	3,000	545	1170	95
10,0	4,050	780	2,050	320	2,800	430	2,430	695	945	120
12,0	3,370	750	1,680	310	2,350	435	2,010	685	780	115
14,0	2,890	670	1,400	280	2,000	405	1,700	820	715	150
16,0	2,500	630	1,250	265	1,750	370	1,500	950	600	180
18,0	2,250	630	1,100	260	1,550	365	1,320	1,245	515	250
20,0	2,000	620	1,000	260	1,400	365	1,200	1,875	480	390

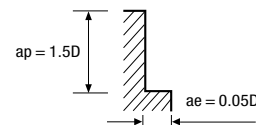
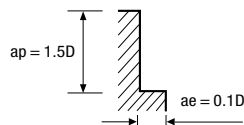
Application tip depth of cut



Shouldering

Workpiece	Alloy steel, Cast iron		Stainless steel 300 series		Stainless steel 400 series		Titanium		Inconel	
	-HB230		U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Conditions	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed	U/min	Feed
Dia. (Ø)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)
1,0	40,500	335	20,000	280	28,000	180	23,925	260	9570	65
1,5	27,000	335	13,000	200	18,500	180	15,730	215	6290	55
2,0	20,300	335	10,000	170	14,000	180	12,010	195	4805	50
2,5	16,200	335	8,000	135	11,000	185	9,490	180	3795	45
3,0	13,500	310	6,690	115	9,350	160	8,045	155	3215	40
4,0	10,100	415	5,050	150	7,000	205	6,000	335	2520	60
5,0	8,090	460	4,050	185	5,600	260	4,815	410	2020	75
6,0	6,750	540	3,350	215	4,700	295	4,030	470	1690	85
8,0	5,050	700	2,500	280	3,500	380	3,000	620	1260	110
10,0	4,050	880	2,050	360	2,800	485	2,430	790	1020	145
12,0	3,370	845	1,680	350	2,350	490	2,010	780	845	140
14,0	2,890	755	1,400	315	2,000	455	1,700	925	715	170
16,0	2,500	710	1,250	295	1,750	415	1,500	1075	600	205
18,0	2,250	710	1,100	290	1,550	410	1,320	1410	515	275
20,0	2,000	700	1,000	290	1,400	410	1,200	2120	480	430

Application tip depth of cut

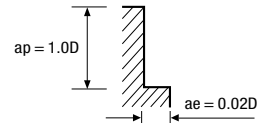
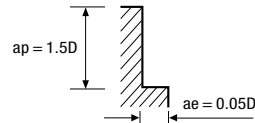
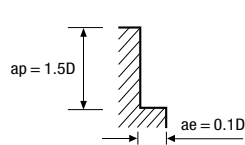


Recommended cutting conditions - SE506 Flat

Shouldering - normal speed

Workpiece	Carbon steel, Alloy steel, Tool steel				Stainless steel, Ti-Alloy		Inconel		
	-HRC30		HRC30-40						
	Conditions	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Dia. (Ø)									
6,0	5560	2000	3880	1370	3370	1100	1350	280	
8,0	4200	2000	2940	1370	2490	1100	1000	280	
10,0	3360	2000	2320	1370	1920	1100	440	280	
12,0	2840	1680	2000	1160	1610	1000	400	250	
16,0	2100	1260	1480	880	1160	770	310	190	
20,0	1680	1010	1160	690	900	620	250	155	

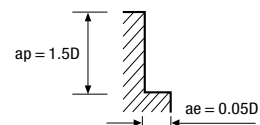
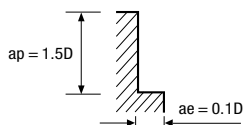
Application tip depth of cut



Shouldering - High-speed machining

Workpiece	Carbon steel, Alloy steel, Tool steel				
	-HRC30		HRC30-40		
	Conditions	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Dia. (Ø)					
6.0	22200	8000	16800	6090	
8.0	16800	8000	12600	6090	
10.0	13400	8000	9988	5990	
12.0	11350	6720	8400	5040	
16.0	8400	5040	6300	3780	
20.0	6700	4040	5040	3050	

Application tip depth of cut

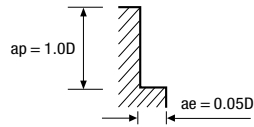


Recommended cutting conditions - SR505 / SR507 Radius

Shouldering

Workpiece	Alloy steel, Cast iron		Stainless steel, Ti-Alloy		High hardened steel	
	SKD61		U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Conditions	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Dia. (Ø)						
6,0	3700	450	3200	380	1100	65
8,0	2800	400	2350	420	950	60
10,0	2250	325	1990	350	750	60
12,0	1990	300	1550	270	600	55
16,0	1550	250	1250	250	500	50
20,0	1200	180	900	150	350	50

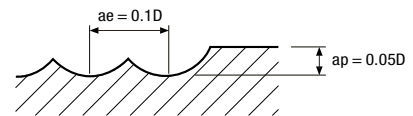
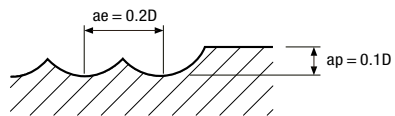
Application tip depth of cut



Shouldering

Workpiece	Stainless steel 300 series		Ni alloy, Ti alloy	
	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Conditions	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
Dia. (Ø)				
2.0	8900	210	6400	120
4.0	5000	310	3600	180
6.0	3600	380	2600	210
8.0	2800	400	2000	230
10.0	2300	410	1600	230
12.0	1900	410	1400	240

Application tip depth of cut

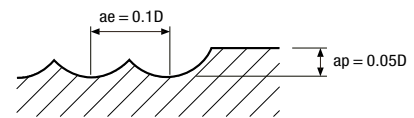
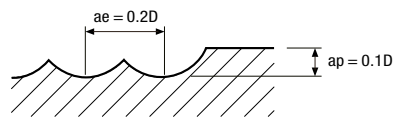


Recommended cutting conditions - SB502 Ball

Shouldering - normal speed

Workpiece	Carbon steel, Cast iron		Stainless steel, Pre-hardened steel		Heat treated steel			
	150-250HB		HRC25-35		HRC35-45		HRC45-55	
	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
2.0	19100	770	12800	370	10200	270	8900	190
4.0	10800	1100	7200	550	5700	400	5000	280
6.0	7700	1300	5200	660	4100	480	3600	330
8.0	6000	1400	4000	700	3200	510	2800	360
10.0	4800	1400	3200	700	2600	520	2300	370
12.0	4000	1400	2700	710	2200	530	1900	370

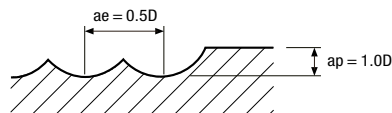
Application tip depth of cut



Recommended cutting conditions - SB504 Ball

Workpiece	Carbon steel, Cast iron		Stainless steel 300 series, Titanium		Stainless steel 400 series	
	-HB230		U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)	U/min n (min ⁻¹)	Feed vf (mm/min)
3.0	13500	275	6690	105	9350	145
4.0	10100	370	5050	135	7000	185
5.0	8090	410	4050	165	5600	230
6.0	6750	480	3350	190	4700	265
8.0	5050	620	2500	250	3500	340
10.0	4050	780	2050	320	2800	430
12.0	3370	750	1680	310	2350	435
16.0	2530	700	1250	300	1750	395
20.0	2030	680	1000	290	1400	370

Application tip depth of cut

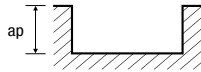


Recom. cutting conditions - SF513H / SF514H / SF515H Roughing

Slotting

Workpiece	Stainless steel, Titanium Alloy	
Conditions	SUS304, SUS316, Ti6A	
Dia. (Ø)	U/min n (min ⁻¹)	Feed vf (mm/min)
3	5000	380
4	4800	350
5	4700	350
6	4400	340
7	3800	340
8	3300	340
9	3000	340
10	2700	330
12	2200	330
14	2000	310
16	1750	300
20	1300	210

Application tip depth of cut



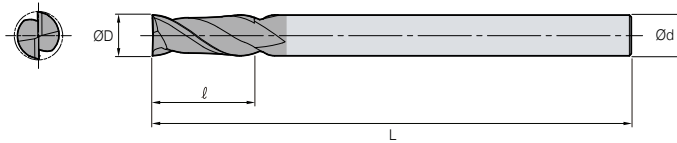
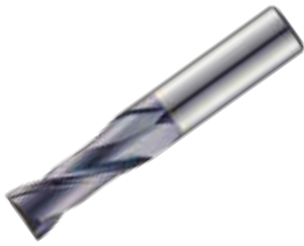
ap: D3-D5 = 0.3 × D
 D6-D10 = 0.25mm × D
 D12-D16 = 0.15mm × D
 D18-D20 = 0.1mm × D

*If chattering is occurred even though workpiece is rigidly clamped, lower RPM and feed at the same rate shown in the chart above.

※ Notice

- Please adjust the recommended cutting conditions properly, according to the condition of your machines, the target shapes, and your purpose for machining.
- Please set the machine with high rigidity and check the workpiece's clamping status.
- Please select proper coolant oil for workpiece materials and check if the pressure and amount of coolant oil is adequate for machining.
- In case of chattering, reduce RPM and feed rate by the same ratio.

SE502 Flat



Tolerance ØD	Ød
Ø1,0 - Ø5,0	0 - -0,015 mm
Ø 6,0	0 - -0,02 mm
Ø8,0 - Ø20,0	0 - -0,03 mm

(mm)

Designation	Stock	ØD	Ød	ℓ	L
SE502	●	1,0	6	2,5	50
	●	1,2	6	3	50
	●	1,5	6	4	50
	●	2,0	6	6	50
	●	2,5	6	7	50
	●	3,0	6	8	55
	●	4,0	6	10	55
	●	5,0	6	15	55
	●	6,0	6	15	60
	●	8,0	8	20	70
	●	10	10	25	75
	●	12	12	30	80
	●	14	16	35	90
	●	16	16	42	100
	●	18	16	45	100
	●	20	20	48	100

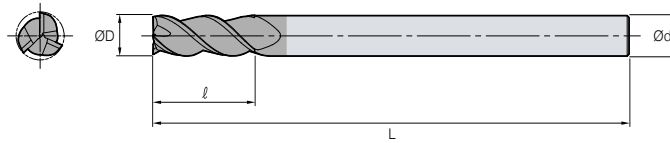
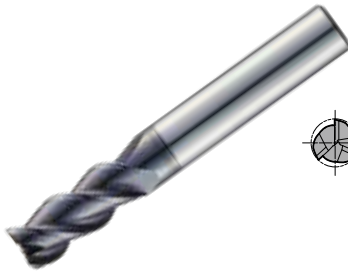
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SE503 Flat



Tolerance ØD		Ød
Ø1,0 - Ø5,0	0 - -0,015 mm	h5
Ø 6,0	0 - -0,02 mm	
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	ØD	Ød	ℓ	L
SE503 	●	1,0	6	2.5	50
	●	1.2	6	3	50
	●	1.5	6	4	50
	●	2,0	6	6	50
	●	2.5	6	7	50
	●	3,0	6	8	55
	●	3,0	6	10	60
	●	4,0	6	10	55
	●	4,0	6	12	60
	●	5,0	6	13	55
	●	6,0	6	15	60
	●	6,0	6	20	65
	●	8,0	8	20	70
	●	8,0	8	30	80
	●	10	10	25	75
	●	10	10	35	85
	●	12	12	30	80
	●	12	12	40	90
	●	14	16	35	90
	●	16	16	42	100
●	18	16	45	100	
●	20	20	48	100	

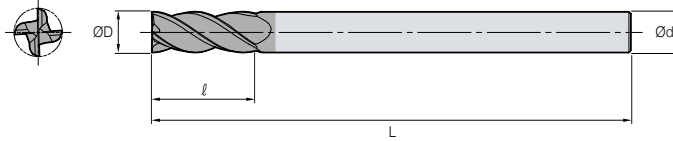
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SE504 Flat



Tolerance ØD		Ød
Ø1,0 - Ø5,0	0 - -0,015 mm	h5
Ø 6,0	0 - -0,02 mm	
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	ØD	Ød	ℓ	L
SE504 SE504010	●	1,0	6	2,5	50
SE504012	●	1,2	6	3	50
SE504015	●	1,5	6	4	50
SE504020	●	2,0	6	6	50
SE504025	●	2,5	6	7	50
SE504030	●	3,0	6	8	55
SE50403010	●	30	6	10	60
SE504035	●	3,5	6	10	55
SE504040	●	40	6	10	55
SE50404012	●	40	6	12	60
SE504045	●	4,5	6	12	55
SE504050	●	5,0	6	15	55
SE504055	●	5,5	6	15	60
SE504060	●	6,0	6	15	60
SE50406020	●	60	6	20	65

Designation	Stock	ØD	Ød	ℓ	L
SE504 SE504065	●	6,5	8	15	60
SE504070	●	7,0	8	20	80
SE504080	●	80	8	20	70
SE50408025	●	80	8	25	70
SE50408030	●	80	8	30	80
SE504085	●	8,5	10	20	70
SE504090	●	90	10	25	80
SE504100	●	10	10	25	75
SE50410035	●	10	10	35	85
SE504120	●	12	12	30	80
SE50412040	●	12	12	40	90
SE504140	●	14	16	35	90
SE504160	●	16	16	42	100
SE504180	●	18	16	45	100
SE504200	●	20	20	48	100

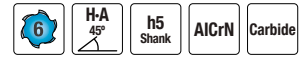
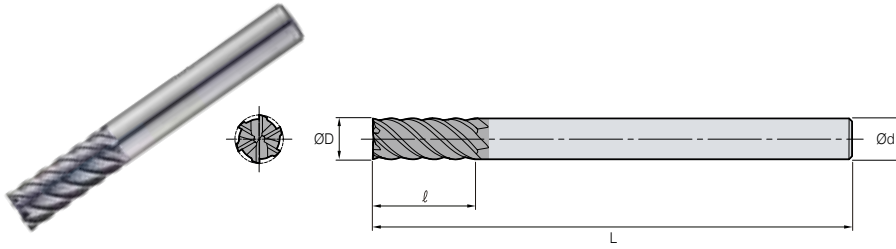
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SE506 Flat



Tolerance ØD		Ød
Ø 6,0	0 - -0,02 mm	h5
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	ØD	Ød	ℓ	L	
SE506 	SE506060	●	6,0	6	15	60
	SE506080	●	8,0	8	20	70
	SE506100	●	10	10	25	75
	SE506120	●	12	12	30	80
	SE506160	●	16	16	42	100
	SE506200	●	20	20	48	100

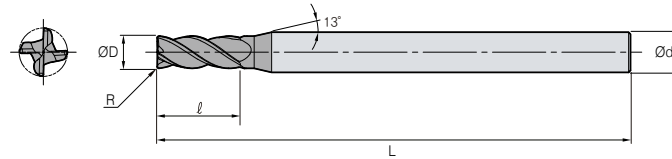
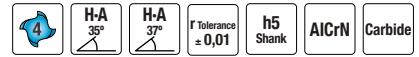
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SR504 Radius



Tolerance ØD		Ød
Ø1,0 - Ø5,0	0 - -0,015 mm	h5
Ø6,0 - Ø7,0	0 - -0,02 mm	
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	R	ØD	Ød	ℓ	L
SR504 SR50401001	●	0,1	1	6	2,5	50
4 SR50401002	●	0,2	1	6	2,5	50
SR50401201	●	0,1	1,2	6	3	50
SR50401501	●	0,1	1,5	6	4	50
SR50401502	●	0,2	1,5	6	4	50
SR50402001	●	0,1	2	6	6	50
SR50402002	●	0,2	2	6	6	50
SR50402502	●	0,2	2,5	6	7	50
SR50403002	●	0,2	3	6	8	55
SR50403003	●	0,3	3	6	8	55
SR50403005	●	0,5	3	6	8	55
SR50404002	●	0,2	4	6	10	55
SR50404003	●	0,3	4	6	10	55
SR50404005	●	0,5	4	6	10	55
SR50405002	●	0,2	5	6	15	55
SR50405003	●	0,3	5	6	15	55
SR50405005	●	0,5	5	6	15	55
SR50406003	●	0,3	6	6	15	60
SR50406005	●	0,5	6	6	15	60
SR50406010	●	1,0	6	6	15	60
SR50407003	●	0,3	7	8	15	60
SR50408002	●	0,2	8	8	20	70
SR50408003	●	0,3	8	8	20	70

Designation	Stock	R	ØD	Ød	ℓ	L
SR504 SR50408005	●	0,5	8	8	20	70
4 SR50408010	●	1,0	8	8	20	70
SR50410003	●	0,3	10	10	25	75
SR50410005	●	0,5	10	10	25	75
SR50410010	●	1,0	10	10	25	75
SR50410015	●	1,5	10	10	25	75
SR50410020	●	2,0	10	10	25	75
SR50410030	●	3,0	10	10	25	75
SR50412003	●	0,3	12	12	30	80
SR50412005	●	0,5	12	12	30	80
SR50412010	●	1,0	12	12	30	80
SR50412015	●	1,5	12	12	30	80
SR50412020	●	2,0	12	12	30	80
SR50412030	●	3,0	12	12	30	80
SR50412040	●	4,0	12	12	30	80
SR50414005	●	0,5	14	16	35	90
SR50414010	●	1,0	14	16	35	90
SR50416005	●	0,5	16	16	42	100
SR50416010	●	1,0	16	16	42	100
SR50418005	●	0,5	18	16	45	100
SR50420005	●	0,5	20	20	48	100
SR50420010	●	1,0	20	20	48	100

▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

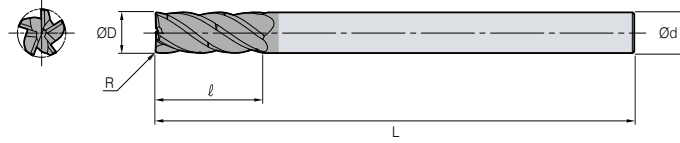
● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○


SR505 Radius Nick type radius



Tolerance ØD		Ød
Ø6,0	0 - -0,02 mm	h5
Ø8,0 - Ø20,0	0 - -0,03 mm	



(mm)

Designation	Stock	R	ØD	Ød	ℓ	L
SR505 	SR50506005	●	6	6	15	60
	SR50508005	●	8	8	20	70
	SR50510005	●	10	10	25	75
	SR50512005	●	12	12	30	80
	SR50516005	●	16	16	42	100
	SR50520005	●	20	20	48	100

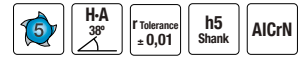
▲ : Stock item Europe ● : Stock item Korea ○ : Production on demand

Applicable workpiece

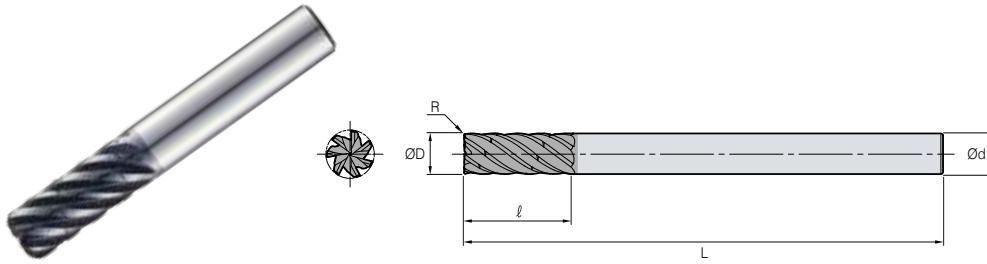
● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SR507 Nick type radius



Tolerance ØD		Ød
Ø6,0	0 - -0,02 mm	h5
Ø8,0 - Ø20,0	0 - -0,03 mm	



(mm)

Designation	Stock	R	ØD	Ød	ℓ	L
SR507 	●	0,5	6	6	15	60
	●	0,5	8	8	20	70
	●	0,5	10	10	25	75
	●	0,5	12	12	30	80
	●	0,5	16	16	42	100
	●	0,5	20	20	48	100

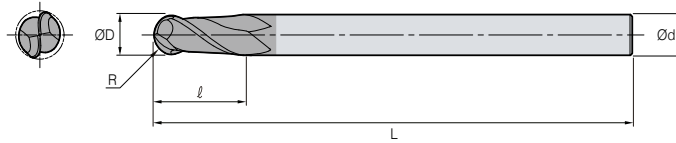
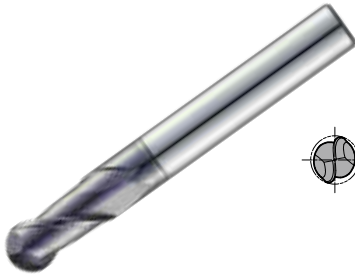
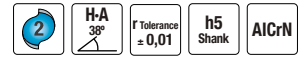
▲ : Stock item Europe ● : Stock item Korea ○ : Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SB502 Ball



Tolerance ØD		Ød
Ø1,0 - Ø5,0	0 - -0,015 mm	h5
Ø6,0 - Ø7,0	0 - -0,02 mm	
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	R	ØD	Ød	ℓ	L
SB502						
SB502010	●	0,5	1	6	3	50
SB502020	●	1,0	2	6	6	50
SB502030	●	1,5	3	6	8	50
SB502030L	●	1,5	3	6	8	70
SB502040	●	2,0	4	6	10	50
SB502040L	●	2,0	4	6	10	70
SB502050	●	2,5	5	6	13	50
SB502050L	●	2,5	5	6	13	80
SB502060	●	3,0	6	6	13	50
SB502060L	●	3,0	6	6	13	90
SB502080	●	4,0	8	8	19	60
SB502080L	●	4,0	8	8	19	100
SB502100	●	5,0	10	10	22	70
SB502100L	●	5,0	10	10	22	100
SB502120	●	6,0	12	12	26	75
SB502120L	●	6,0	12	12	26	110

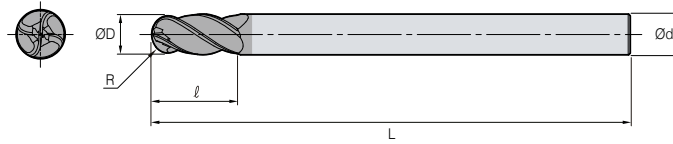
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SB504 Ball



Tolerance ØD		Ød
Ø1,0 - Ø5,0	0 - -0,015 mm	h5
Ø6,0 - Ø7,0	0 - -0,02 mm	
Ø8,0 - Ø20,0	0 - -0,03 mm	

(mm)

Designation	Stock	R	ØD	Ød	ℓ	L
SB504						
SB504030	●	1,5	3	6	8	60
SB504040	●	2,0	4	6	8	70
SB504050	●	2,5	5	6	12	80
SB504060	●	3,0	6	6	12	90
SB504080	●	4,0	8	8	16	100
SB504100	●	5,0	10	10	20	100
SB504120	●	6,0	12	12	25	100
SB504160	●	8,0	16	16	30	100
SB504200	●	10	20	20	38	100

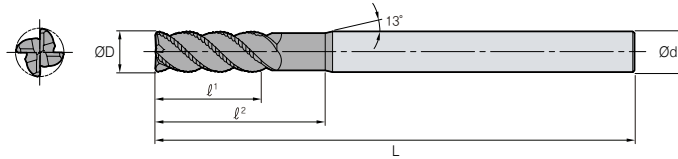
▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○

SF513H / SF514H / SF515H Roughing



Tolerance ØD		Ød
Ø3,0 - Ø20,0	0 - -0,05 mm	h5

(mm)

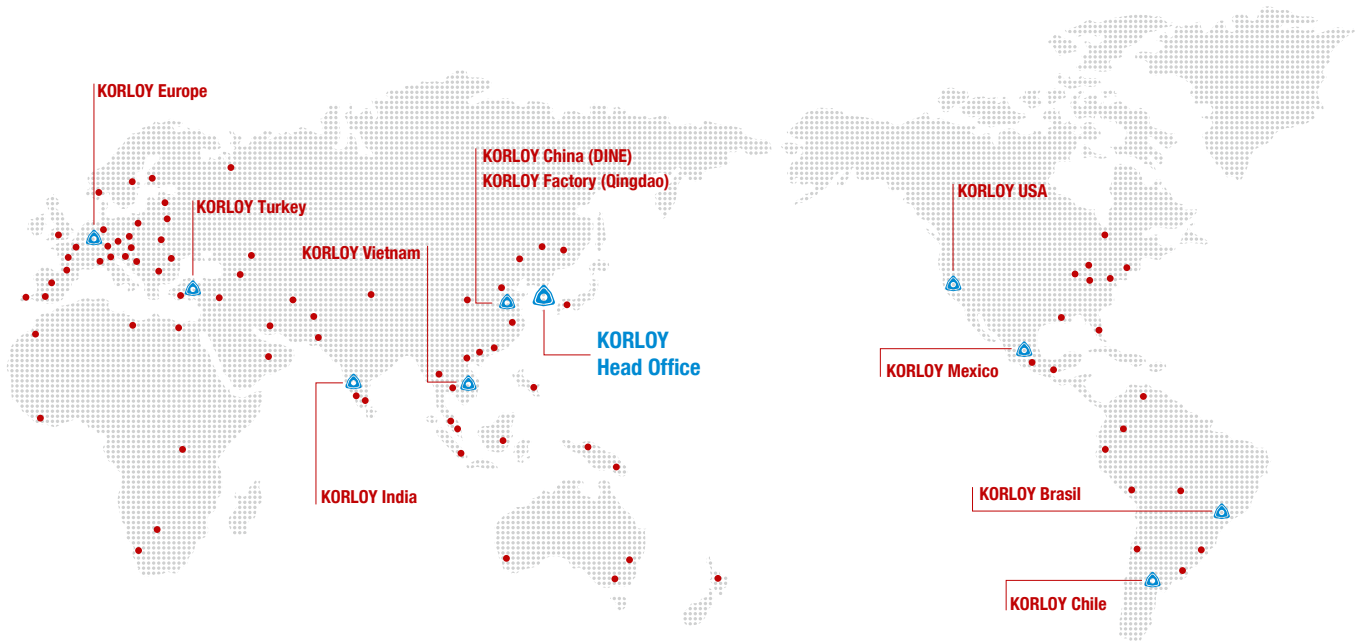
Designation		Stock	C	ØD	Ød	ℓ¹	ℓ²	L	z
SF513H 3	SF51303002H	●	0,2	3	6	8	-	50	3
	SF51304002H	●	0,2	4	6	10	-	50	3
SF514H 4	SF51405002H	●	0,3	5	6	13	-	50	4
	SF51406002H	●	0,3	6	6	13	-	60	4
	SF51406002NH	●	0,3	6	6	10	20	60	4
	SF51407002H	●	0,4	7	8	18	-	70	4
	SF51408002H	●	0,4	8	8	19	-	70	4
	SF51408002NH	●	0,4	8	8	12	25	70	4
	SF51409003H	●	0,4	9	10	20	-	70	4
	SF51410003H	●	0,4	10	10	22	-	75	4
	SF51410003NH	●	0,4	10	10	15	30	75	4
	SF51411003H	●	0,5	11	12	25	-	80	4
	SF51412003H	●	0,5	12	12	26	-	80	4
	SF51412003NH	●	0,5	12	12	20	35	80	4
SF515H 5	SF51506002H	●	0,3	6	6	13	-	60	5
	SF51508002H	●	0,4	8	8	19	-	65	5
	SF51510003H	●	0,4	10	10	22	-	70	5
	SF51512003H	●	0,5	12	12	26	-	80	5
	SF51514005H	●	0,5	14	16	28	-	90	5
	SF51516005H	●	0,5	16	16	32	-	100	5
	SF5151600542H	●	0,5	16	16	42	-	100	5
	SF51520005H	●	0,5	20	20	38	-	100	5
	SF5152000545H	●	0,5	20	20	45	-	100	5

▲: Stock item Europe ●: Stock item Korea ○: Production on demand

Applicable workpiece

● = Excellent ○ = Good

Carbon steel (- HB225)	Alloy steel (HB225 - 325)	Pre-hardened steel (HRC30 - 50)	Hardened steel		Cast iron - FCD500	Aluminum	Stainless steel	Ti alloy	Ni alloy
			SKD61 (- HRC55)	SKD11 (HRC55 -)					
○	○	○					●	○	○



KORLOY

Head Office

Holystar B/D, 326, Seocho-daero, Seocho-gu, Seoul, 06633, Korea,
Web: www.korloy.com

Cheongju Factory

55, Sandan-ro, Heungdeok-gu, Cheongju-si,
Chungcheongbuk-do, 28589, Korea

Jincheon Factory

54, Gwanghyewonsandan 2-gil, Gwanghyewon-myeon,
Jincheon-gun, Chungcheongbuk-do, 27807, Korea

R & D Institute Seoul

Holystar B/D, 326, Seocho-daero, Seocho-gu, Seoul, 06633, Korea

R & D Institute Cheongju

55, Sandan-ro, Heungdeok-gu, Cheongju-si,
Chungcheongbuk-do, 28589, Korea

Gurgaon Factory

Plot NO.415, Sector 8, IMT Manesar, Gurgaon 122051, Haryana, India

KORLOY EUROPE

Gablonz Str. 25-27 · D-61440 Oberursel Germany · Phone +49-6171-27783-0 · Fax +49-6171-27783-59 · Mail: info@korloyeurope.com · Web: www.korloyeurope.eu

KORLOY AMERICA

620, Maple Avenue, Torrance, CA 90503, USA

KORLOY BRASIL

Av. Aruana 280, conj.12, WLC, Alphaville, Barueri, CEP06460-010, SP, Brasilien

KORLOY CHILE

Av. Providencia 1650, Office 1009, 7500027 Providencia-Santiago, Chile

KORLOY INDIA

Ground Floor, Property No. 217, Udyog Vihar Phase 4, Gurgaon 122016, Haryana, India

KORLOY TURKEY

Serifali Mahallesi, Burhan Sokak NO: 34 Dudullu OSB/Umraniye/Istanbul, 34775, Turkey

KORLOY VIETNAM

No. 133 Le Loi street, Hoa Phu ward, Thu Dau Mot city, Binh Duong proviende, Vietnam

KORLOY MEXICO

Calle R. M. Clemencia Borja Taboada 522, Jurica Acueducto, 76230 Juriquilla, Qro. Mexico

KTS - Korloy Tooling Solution



Get our FREE App

Just download, install and use.

