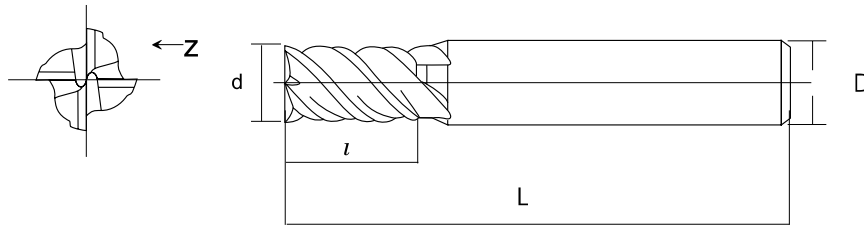




Super high lubrication & Super low friction coefficient

## SQUARE TYPE - 4 flutes

WC=88 Co=12 HRA = 92.4 Rupture=3950N/mm<sup>2</sup> Grain Size=0.5μm



● SUPE 4 Flutes - RS ●



MODE	Diameter d	Flute Length l	Shank Diameter D	Flute Quantity Z	Full Length L
SUPE4 104	1	3	4	4	50
SUPE4 154	1.5	4	4	4	50
SUPE4 204	2	6	4	4	50
SUPE4 254	2.5	8	4	4	50
SUPE 3304	3	8	3	4	50
SUPE4 304	3	8	4	4	50
SUPE4 354	3.5	10	4	4	50
SUPE4 404	4	11	4	4	50
SUPE 0104	1	3	6	4	50
SUPE 0154	1.5	4	6	4	50
SUPE 0204	2	6	6	4	50
SUPE 0254	2.5	8	6	4	50
SUPE 0304	3	8	6	4	50
SUPE 0354	3.5	10	6	4	50
SUPE 0404	4	11	6	4	50
SUPE 0454	4.5	13	6	4	50
SUPE 0504	5	13	6	4	50
SUPE 0554	5.5	13	6	4	50
SUPE 0604	6	16	6	4	50
SUPE 0654	6.5	16	8	4	60
SUPE 0704	7	16	8	4	60
SUPE 0754	7.5	19	8	4	60
SUPE 0804	8	20	8	4	60
SUPE 0854	8.5	20	10	4	75
SUPE 0904	9	20	10	4	75
SUPE 0954	9.5	25	10	4	75
SUPE 1004	10	30	10	4	75
SUPE 1054	10.5	30	12	4	75
SUPE 1104	11	30	12	4	75
SUPE 1154	11.5	30	12	4	75
SUPE 1204	12	32	12	4	75
SUPE 1404	14	40	16	4	100
SUPE 1604	16	40	16	4	100
SUPE 1804	18	45	20	4	100
SUPE 2004	20	45	20	4	100

## SUPE 4 Flutes ■ Standard Cutting Conditions

Work Material	Carbon Steels, Alloy Steels (~30HRC) S50C, SCM, FC250 etc AISI 1049, Cast iron			Alloy Steels, Tool Steels (30~45HRC) Prehardened Steels, SKD61, NAK etc AISI H13			Austenitic stainless Steels SUS304, SUS316 etc AISI 304, AISI 316			Hardened Steels (45~50HRC) SKD61, SKD11, NAK, STAVAX etc AISI H13		
Cutting Speed	50~100m/min			50~70m/min			30~60m/min			30~50m/min		
Diameter (mm)	Speed (min <sup>-1</sup> )	Feed Rate (mm/min)		Speed (min <sup>-1</sup> )	Feed Rate (mm/min)		Speed (min <sup>-1</sup> )	Feed Rate (mm/min)		Speed (min <sup>-1</sup> )	Feed Rate (mm/min)	
		Side Milling	Slotting		Side Milling	Slotting		Side Milling	Slotting		Side Milling	Slotting
1	30,000	900	720	20,000	600	480	12,600	450	270	15,000	180	140
1.5	20,000	900	720	14,000	600	480	8,400	450	270	10,000	180	140
2	15,000	900	720	10,000	600	480	6,300	450	270	8,000	180	140
2.5	12,000	900	720	8,200	600	480	5,100	450	270	6,100	180	140
3	10,000	900	720	7,000	600	480	4,200	450	270	5,000	180	140
4	7,500	900	720	5,200	600	480	3,100	450	270	4,000	180	140
5	6,000	900	720	4,200	600	480	2,500	450	270	3,200	180	140
6	5,000	900	720	3,500	600	480	2,100	450	270	2,700	180	140
8	4,000	780	620	2,800	520	410	1,600	390	230	2,000	160	125
10	3,200	680	540	2,200	450	360	1,300	340	200	1,600	140	110
12	2,700	620	490	1,900	410	320	1,100	310	180	1,300	120	95
16	2,000	360	280	1,400	310	240	840	240	140	1,000	100	80
20	1,600	300	240	1,100	250	200	680	210	120	800	90	70
25	1,300	240	190	900	210	160	540	180	100	640	70	55

Depth of cut (D: Dia)				
-----------------------	--	--	--	--

1. Please use Si coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.



SUPE 4 Flutes ■ High-Speed Milling Conditions

Work Material	Carbon Steels, Alloy Steels (~30HRC) S50C, SCM, FC250 etc AISI 1049, Cast iron		Alloy Steels, Tool Steels (30~45HRC) Prehardened steels, SKD61, NAK etc AISI H13		Hardened steels (45~50HRC) SKD61, SKD11, NAK, STAVAX etc AISI H13	
Cutting Speed	300m/min		200m/min		150m/min	
Diameter (mm)	Speed (min <sup>-1</sup> )	Feed Rate (mm/min)	Speed (min <sup>-1</sup> )	Feed Rate (mm/min)	Speed (min <sup>-1</sup> )	Feed Rate (mm/min)
1	40,000	1,200	30,000	900	30,000	360
2	40,000	2,400	30,000	1,800	23,800	530
3	30,000	2,700	21,200	1,800	15,900	530
4	23,800	2,850	15,900	1,800	11,900	530
5	19,000	2,850	12,700	1,800	9,500	530
6	15,900	2,850	10,600	1,800	7,900	530
8	11,900	2,325	7,900	1,485	5,900	470
10	9,500	2,000	6,300	1,290	4,700	410
12	7,900	1,800	5,300	1,125	3,900	360
16	6,000	1,000	4,000	880	3,000	300
20	4,800	900	3,200	720	2,400	270
25	3,800	700	2,500	580	1,900	200
Depth of cut (D:Dia)						