

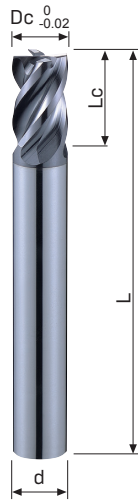
E141-1.5HX / 2.0HX / 3.0HX 超微粒鎢鋼塗層多用途立銑刀

Multipurpose End Mills

MG Carbide **AlTiCrN HX**



Type of Operation



Code No. E141-1.5HX-Dc				
Dc 0 -0.02	Lc mm	L mm	d h6	AlTiCrN E141-1.5HX
1	1.5	50	4	●
1.5	2.3	50	4	●
2	3	50	4	●
2.5	3.8	50	4	●
3	4.5	50	6	●
3.5	5.3	50	6	●
4	6	50	6	●
4.5	6.8	50	6	●
5	7.5	50	6	●
5.5	8.3	50	6	●
6	9	50	6	●
8	12	65	8	●
10	15	75	10	●
12	18	80	12	●
16	24	100	16	●
20	30	120	20	●

Work Material

P	H	M	K	N	S
●	●	●	●	○	○

P 鋼鐵 Steel

H 硬化鋼 <38HRC Hardened Steel

H 硬化鋼 <48HRC Hardened Steel

M 不銹鋼 Stainless Steel

K 鑄鐵 Cast Iron

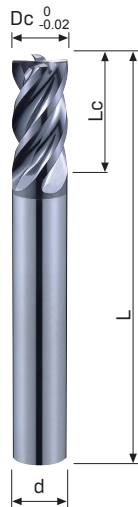
N 鋁 Aluminium

N 銅 Copper

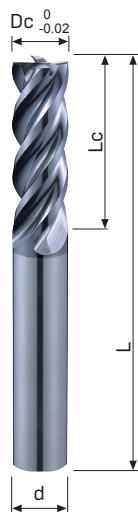
S 鈦合金 Titanium

S 鎳 Nickel

S 高溫合金 High Temp Alloys



Code No. E141-2.0HX-Dc				
Dc 0 -0.02	Lc mm	L mm	d h6	AlTiCrN E141-2.0HX
1	2	50	4	●
1.5	3	50	4	●
2	4	50	4	●
2.5	5	50	4	●
3	6	50	6	●
3.5	7	50	6	●
4	8	50	6	●
4.5	9	50	6	●
5	10	50	6	●
5.5	11	50	6	●
6	12	50	6	●
8	16	65	8	●
10	20	75	10	●
12	24	80	12	●
16	32	100	16	●
20	40	120	20	●



Code No. E141-3.0HX-Dc									
Dc 0 -0.02	Lc mm	L mm	d h6	AlTiCrN E141-3.0HX	Dc 0 -0.02	Lc mm	L mm	d h6	AlTiCrN E141-3.0HX
1	3	50	4	●	10	30	75	10	●
1.5	4.5	50	4	●	11	33	80	12	●
2	6	50	4	●	12	36	80	12	●
2.5	7.5	50	4	●	13	39	100	16	●
3	9	50	6	●	14	42	100	16	●
3.5	10.5	50	6	●	15	45	100	16	●
4	12	50	6	●	16	48	100	16	●
4.5	13.5	50	6	●	17	51	120	20	●
5	15	50	6	●	18	54	120	20	●
5.5	16.5	50	6	●	20	60	120	20	●
6	18	50	6	●	25	75	150	25	●
7	21	65	8	●					
8	24	65	8	●					
9	27	75	10	●					

Feature of product:

4刃多用途立銑刀/各種短刃及長刃可供選擇

採不等螺旋、不等分割設計，有效抑制振動。

大排屑溝使其排屑順暢，可應對各式材料。

搭配AlTiCrN奈米多層膜塗層，有效提升刀具壽命。

適用於多種材料切削加工。

E141-1.5HX / 2.0HX / 3.0HX 切削條件參考表

Recommended Milling Conditions

E141-1.5HX / 2.0HX / Slotting 溝切削

被削材 Work Material		GR.1 碳鋼 Carbon Steel		GR.2 低合金鋼 Low-alloyed Steel (~24HRC)		GR.3 高合金鋼 Hi-alloyed Steel (~30HRC)		GR.4 硬化鋼 Hardened Steel (30-38HRC)		GR.5 硬化鋼 Hardened Steel (38-48HRC)		GR.8 不銹鋼 Stainless Steel		GR.9 鑄鐵 Cast Iron		GR.15 鈦合金 Titanium	
切削速度 Vc m/min		120		120		80		65		60		65		120		30	
型號 Code No.	刃徑 Dc	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
		迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)
E141-1.5HX/2.0HX-1	1	31,800	200	31,800	200	25,000	180	19,750	150	19,000	85	19,750	150	31,800	200	7,100	50
E141-1.5HX/2.0HX-1.5	1.5	21,200	200	21,200	200	16,500	180	13,000	150	12,700	90	13,000	150	21,200	200	5,100	80
E141-1.5HX/2.0HX-2	2	15,900	220	15,900	220	12,420	180	9,850	150	9,550	90	9,850	150	15,900	220	4,000	100
E141-1.5HX/2.0HX-2.5	2.5	12,700	330	12,700	330	9,930	220	7,900	175	7,600	90	7,900	175	12,700	330	3,200	100
E141-1.5HX/2.0HX-3	3	10,600	600	10,600	600	8,280	430	6,550	290	6,400	105	6,550	290	10,600	600	3,200	130
E141-1.5HX/2.0HX-3.5	3.5	8,470	615	8,470	615	6,600	465	5,250	305	5,100	110	5,250	305	8,470	615	2,800	140
E141-1.5HX/2.0HX-4	4	6,350	635	6,350	635	4,950	500	3,950	325	3,800	120	3,950	325	6,350	635	2,400	150
E141-1.5HX/2.0HX-4.5	4.5	5,450	705	5,450	705	4,250	510	3,370	335	3,260	120	3,370	335	5,450	705	2,200	155
E141-1.5HX/2.0HX-5	5	4,550	775	4,550	775	3,550	525	2,800	348	2,730	125	2,800	348	4,550	775	2,000	160
E141-1.5HX/2.0HX-5.5	5.5	4,040	775	4,040	775	3,160	510	2,500	330	2,400	125	2,500	330	4,040	775	1,800	150
E141-1.5HX/2.0HX-6	6	3,540	775	3,540	775	2,760	500	2,200	313	2,100	125	2,200	313	3,540	775	1,600	145
E141-1.5HX/2.0HX-8	8	3,185	650	3,185	650	2,480	500	1,975	313	1,900	125	1,975	313	3,185	650	1,200	120
E141-1.5HX/2.0HX-10	10	3,650	670	3,650	670	2,070	490	1,645	288	1,595	120	1,645	288	3,650	670	1,000	145
E141-1.5HX/2.0HX-12	12	2,275	560	2,275	560	1,770	460	1,410	275	1,365	120	1,410	275	2,275	560	800	150
E141-1.5HX/2.0HX-16	16	1,990	660	1,990	660	1,550	420	1,230	240	1,190	100	1,230	240	1,990	660	600	150
E141-1.5HX/2.0HX-20	20	1,590	500	1,590	500	1,240	360	985	200	950	90	985	200	1,590	500	480	130
切入深度 (mm)		ap:0.5D		ap:0.5D		ap:0.5D		ap:0.5D		ap:0.05D		ap:0.5D		ap:0.5D		ap:0.05D	

E141-3.0HX / Side Milling 側面切削

被削材 Work Material		GR.1 碳鋼 Carbon Steel		GR.2 低合金鋼 Low-alloyed Steel (~24HRC)		GR.3 高合金鋼 Hi-alloyed Steel (~30HRC)		GR.4 硬化鋼 Hardened Steel (30-38HRC)		GR.5 硬化鋼 Hardened Steel (38-48HRC)		GR.8 不銹鋼 Stainless Steel		GR.9 鑄鐵 Cast Iron		GR.15 鈦合金 Titanium	
切削速度 Vc m/min		120		120		80		65		60		65		120		30	
型號 Code No.	刃徑 Dc	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
		迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)	迴轉速度 (min-1)	進給速度 (mm/min)
E141-3.0HX-1	1	31,800	240	31,800	240	25,000	210	19,750	180	19,000	85	19,750	180	31,800	240	7,100	50
E141-3.0HX-1.5	1.5	21,200	245	21,200	245	16,500	210	13,000	180	12,700	90	13,000	180	21,200	245	5,100	100
E141-3.0HX-2	2	15,900	245	15,900	245	12,420	210	9,850	180	9,550	90	9,850	180	15,900	245	4,000	120
E141-3.0HX-2.5	2.5	12,700	370	12,700	370	9,930	300	7,900	275	7,600	90	7,900	275	12,700	370	3,200	150
E141-3.0HX-3	3	10,600	683	10,600	683	8,280	530	6,550	389	6,400	105	6,550	389	10,600	683	3,200	180
E141-3.0HX-3.5	3.5	8,470	710	8,470	710	6,600	560	5,250	400	5,100	110	5,250	400	8,470	710	2,800	180
E141-3.0HX-4	4	6,350	735	6,350	735	4,950	590	3,950	413	3,800	120	3,950	413	6,350	735	2,400	180
E141-3.0HX-4.5	4.5	5,450	805	5,450	805	4,250	605	3,370	428	3,260	120	3,370	428	5,450	805	2,200	185
E141-3.0HX-5	5	4,550	875	4,550	875	3,550	625	2,800	448	2,730	125	2,800	448	4,550	875	2,000	190
E141-3.0HX-5.5	5.5	4,040	875	4,040	875	3,160	610	2,500	428	2,400	125	2,500	428	4,040	875	1,800	190
E141-3.0HX-6	6	3,540	875	3,540	875	2,760	600	2,200	413	2,100	125	2,200	413	3,540	875	1,600	190
E141-3.0HX-8	8	3,185	770	3,185	770	2,480	600	1,975	413	1,900	125	1,975	413	3,185	770	1,200	170
E141-3.0HX-10	10	3,650	770	3,650	770	2,070	595	1,645	375	1,595	120	1,645	375	3,650	770	1,000	160
E141-3.0HX-12	12	2,275	670	2,275	670	1,770	560	1,410	350	1,365	120	1,410	350	2,275	670	800	160
E141-3.0HX-16	16	1,990	670	1,990	670	1,550	520	1,230	312	1,190	100	1,230	312	1,990	670	600	150
E141-3.0HX-20	20	1,590	535	1,590	535	1,240	415	985	277	950	90	985	277	1,590	535	480	160
E141-3.0HX-25	25	1,270	420	1,270	420	1,000	330	760	210	750	70	790	210	1,270	420	380	120
切入深度 (mm)		ap:1.5D		ap:1.5D		ap:1.5D		ap:1.5D		ap:1.5D		ap:1.5D		ap:1.5D		ap:1.5D	
		ae:0.2D		ae:0.2D		ae:0.2D		ae:0.2D		ae:0.1D		ae:0.2D		ae:0.2D		ae:0.1D	

1. Please work with good rigidity / high precision facilities and collet chuck.
2. Please choose proper cutting fluid.
3. The cutting data is reference value only. Please adjust it according to your real working conditions.
4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
5. If vibration occurs during cutting, please reduce cutting parameter.