

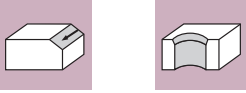
E108X / E109X 極超微粒鎢鋼塗層倒角用立銑刀60° / 90° / 120°

End Mills For Chamfering 60° / 90° / 120°

UMG Carbide **AlTiN X-NaNo**



Type of Operation



Code No. E108X-60°-Dc

Dc 0 -0.02	Lc mm	L mm	d h6	AlTiN E108X-60°
2	4	38	3	●
3	6	38	3	●
4	9	50	4	●
5	10	50	6	●
6	12	50	6	●
8	15	60	8	●
10	16	72	10	●
12	18	75	12	●
16	25	90	16	●
20	30	100	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

H 硬化鋼 <56HRC
Hardened Steel

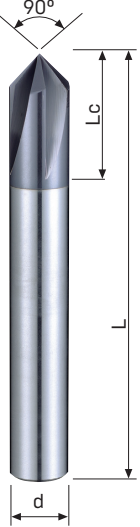
M 不銹鋼
Stainless Steel

K 鑄鐵
Cast Iron

N 鋁
Aluminium

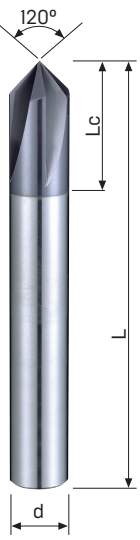
N 銅
Copper

Feature of product:
E108X-60° 4刃倒角立銑刀
E109X-90° 4刃倒角立銑刀
E109X-120° 4刃倒角立銑刀
適用於鑽孔、倒角、深頭孔、定點鑽、及輪廓銑削。



Code No. E109X-90°-Dc

Dc 0 -0.02	Lc mm	L mm	d h6	AlTiN E109X-90°
2	4	38	3	●
3	6	38	3	●
4	9	50	4	●
5	10	50	6	●
6	12	50	6	●
8	15	60	8	●
10	16	72	10	●
12	18	75	12	●
16	25	90	16	●
20	30	100	20	●



Code No. E109X-120°-Dc

Dc 0 -0.02	Lc mm	L mm	d h6	AlTiN E109X-120°
2	4	38	3	●
3	6	38	3	●
4	9	50	4	●
5	10	50	6	●
6	12	50	6	●
8	15	60	8	●
10	16	72	10	●
12	18	75	12	●
16	25	90	16	●
20	30	100	20	●

E108X / E109X 切削條件參考表

Recommended Milling Conditions

E108X / E109X / Chamfering 倒角加工

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 使用切削液		GR.9 鑄鐵 Cast Iron		GR.10 鋁 Aluminium	
切削速度 Vc m/min		40~70		40~70		40~70		30~50		30~50		30~50		40~70		100~200	
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)
E108X/E109X-2	2	11,670	700	11,670	700	11,670	700	4,774	143	4,774	143	4,774	143	11,670	700	15,915	1,432
E108X/E109X-3	3	8,753	525	8,753	525	8,753	525	3,183	100	3,183	100	3,183	100	8,753	525	10,610	954
E108X/E109X-4	4	7,000	420	7,000	420	7,000	420	3,183	100	3,183	100	3,183	100	7,000	420	9,550	955
E108X/E109X-5	5	5,729	343	5,729	343	5,729	343	2,546	100	2,546	100	2,546	100	5,729	343	7,639	763
E108X/E109X-6	6	4,774	286	4,774	286	4,774	286	2,122	90	2,122	90	2,122	90	4,774	286	6,366	700
E108X/E109X-8	8	3,580	358	3,580	358	3,580	358	1,989	120	1,989	120	1,989	120	3,580	358	5,570	668
E108X/E109X-10	10	2,864	286	2,864	286	2,864	286	1,591	95	1,591	95	1,591	95	2,864	286	4,456	712
E108X/E109X-12	12	2,387	238	2,387	238	2,387	238	1,591	127	1,591	127	1,591	127	2,387	238	3,978	716
E108X/E109X-16	16	1,790	116	1,790	116	1,790	116	1,193	119	1,193	119	1,193	119	1,790	116	2,984	537
E108X/E109X-20	20	1,432	186	1,432	186	1,432	186	954	95	954	95	954	95	1,432	186	2,387	477

E108X / V Groove Process V溝加工

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 使用切削液		GR.9 鑄鐵 Cast Iron		GR.10 鋁 Aluminium	
切削速度 Vc m/min		40~70		40~70		40~70		20~50		20~50		20~50		40~70		100~200	
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)
E108X-2	2	11,670	700	11,670	700	11,670	700	4,774	143	4,774	143	4,774	143	11,670	700	15,915	1,432
E108X-3	3	8,753	525	8,753	525	8,753	525	3,183	100	3,183	100	3,183	100	8,753	525	10,610	954
E108X-4	4	7,000	420	7,000	420	7,000	420	3,183	100	3,183	100	3,183	100	7,000	420	9,550	955
E108X-5	5	5,729	343	5,729	343	5,729	343	2,546	100	2,546	100	2,546	100	5,729	343	7,639	763
E108X-6	6	4,774	286	4,774	286	4,774	286	2,122	90	2,122	90	2,122	90	4,774	286	6,366	700
E108X-8	8	3,580	358	3,580	358	3,580	358	1,989	120	1,989	120	1,989	120	3,580	358	5,570	668
E108X-10	10	2,864	286	2,864	286	2,864	286	1,591	95	1,591	95	1,591	95	2,864	286	4,456	712
E108X-12	12	2,387	238	2,387	238	2,387	238	1,591	127	1,591	127	1,591	127	2,387	238	3,978	716
E108X-16	16	1,790	116	1,790	116	1,790	116	1,193	119	1,193	119	1,193	119	1,790	116	2,984	537
E108X-20	20	1,432	186	1,432	186	1,432	186	954	95	954	95	954	95	1,432	186	2,387	477

※ Pls. set up the feed speed under the 50% of conditions we described as above when you do the processing of V groove.

※ The standard of Ad(cutting depth) is 0.3d.

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.

※ V槽加工時，進給速度請以上述條件的50%以下使用。

※ Ad(切入深度)以0.3d為基準。

1. 請使用剛性好、精度高的設備和夾具。
2. 請選擇適用於工件材料的切削液。
3. 此切削條件表中的數值為切削條件的基準值，實際加工時，請考慮加工形狀、目的、使用機台等因素，對切削條件進行調整。
4. 如果機台轉速低於表中所列數值，則進給速度應與轉速按同一比例降低。
5. 切削加工時如果發生振顫，請降低切削條件。

超微粒鎢鋼塗層倒角用立銑刀

Chamfer Mills
4 Flute Chamfering 60°&90°

MG
Carbide

Bright
AlTiN



Code No: E108-DC-60°
Code No: E109-DC-90°

Work Material

P	H	M	K	N	S
●	●	○	●	●	○

P	鋼鐵 Steel
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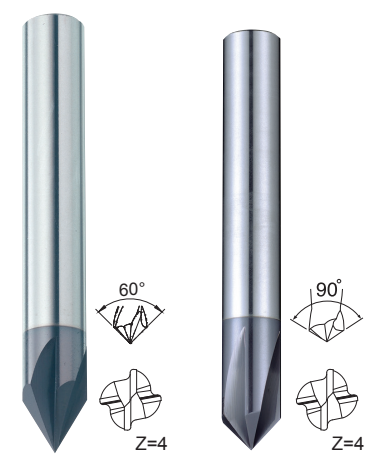
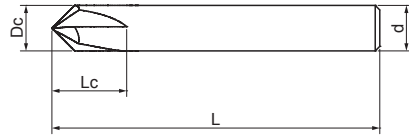
H	硬化鋼 <48HRC Hardened Steel
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M	不銹鋼 Stainless Steel
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K	鑄鐵 Cast Iron
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N	鋁 Aluminium
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N	銅 Copper
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Standard Length

Dc 0 -0.001"	Lc Inch	L Inch	d h6	Bright E108	AlTiN E108X	Bright E109	AlTiN E109X
1/16	3/16	1-1/2	1/8	●	●	●	●
3/32	3/8	1-1/2	1/8	●	●	●	●
1/8	1/2	1-1/2	1/8	●	●	●	●
3/16	5/8	2	3/16	●	●	●	●
1/4	3/4	2-1/2	1/4	●	●	●	●
5/16	13/16	2-1/2	5/16	●	●	●	●
3/8	1	2-1/2	3/8	●	●	●	●
7/16	1	2-3/4	7/16	●	●	●	●
1/2	1	3	1/2	●	●	●	●
5/8	1-1/4	3-1/2	5/8	●	●	●	●
3/4	1-1/2	4	3/4	●	●	●	●

Tolerance: DC
All Sizes: +0/-0.001"

Feature of product:
適用於鑽孔、倒角、深頭孔、定點鑽、及輪廓銑削。