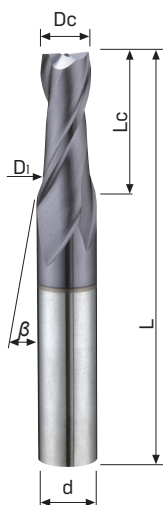


E105X 極超微粒鎢鋼塗層斜度立銑刀

Taper End Mills

UMG
CarbideAlTiN
X-NaNo

Type of Operation



Code No. E105X-Dc×β

| Dc | β | D1 | Lc | L | d | AlTiN E105X | Dc | β | D1 | Lc | L | d | AlTiN E105X |
|-----|---------|------|----|----|----|----------------|----|---------|-------|----|-----|----|----------------|
| mm | on Side | mm | mm | mm | h6 | | mm | on Side | mm | mm | mm | h6 | |
| 1 | 30' | 1.07 | 4 | 50 | 4 | ● | 4 | 30' | 4.26 | 15 | 50 | 6 | ● |
| 1 | 1° | 1.14 | 4 | 50 | 4 | ● | 4 | 1° | 4.52 | 15 | 50 | 6 | ● |
| 1 | 1°30' | 1.21 | 4 | 50 | 4 | ● | 4 | 1°30' | 4.79 | 15 | 50 | 6 | ● |
| 1 | 2° | 1.28 | 4 | 50 | 4 | ● | 4 | 2° | 5.04 | 15 | 50 | 6 | ● |
| 1 | 2°30' | 1.35 | 4 | 50 | 4 | ● | 4 | 2°30' | 5.31 | 15 | 50 | 6 | ● |
| 1 | 3° | 1.42 | 4 | 50 | 4 | ● | 4 | 3° | 5.57 | 15 | 50 | 6 | ● |
| 1 | 4° | 1.56 | 4 | 50 | 4 | ● | 4 | 4° | 6.1 | 15 | 60 | 8 | ● |
| 1 | 5° | 1.7 | 4 | 50 | 4 | ● | 4 | 5° | 6.62 | 15 | 60 | 8 | ● |
| 1 | 6° | 1.84 | 4 | 50 | 4 | ● | 4 | 6° | 7.15 | 15 | 60 | 8 | ● |
| 1 | 7° | 1.98 | 4 | 50 | 4 | ● | 4 | 7° | 7.68 | 15 | 60 | 8 | ● |
| 1 | 10° | 2.41 | 4 | 50 | 4 | ● | 4 | 10° | 9.3 | 15 | 70 | 10 | ● |
| 1.5 | 30' | 1.59 | 5 | 50 | 4 | ● | 5 | 30' | 5.34 | 20 | 60 | 6 | ● |
| 1.5 | 1° | 1.67 | 5 | 50 | 4 | ● | 5 | 1° | 5.7 | 20 | 60 | 6 | ● |
| 1.5 | 1°30' | 1.76 | 5 | 50 | 4 | ● | 5 | 1°30' | 6 | 20 | 60 | 6 | ● |
| 1.5 | 2° | 1.85 | 5 | 50 | 4 | ● | 5 | 2° | 6.39 | 20 | 60 | 8 | ● |
| 1.5 | 2°30' | 1.93 | 5 | 50 | 4 | ● | 5 | 2°30' | 6.75 | 20 | 60 | 8 | ● |
| 1.5 | 3° | 2.02 | 5 | 50 | 4 | ● | 5 | 3° | 7.1 | 20 | 60 | 8 | ● |
| 1.5 | 4° | 2.2 | 5 | 50 | 4 | ● | 5 | 4° | 7.8 | 20 | 60 | 8 | ● |
| 1.5 | 5° | 2.37 | 5 | 50 | 4 | ● | 5 | 5° | 8.5 | 20 | 70 | 10 | ● |
| 1.5 | 6° | 2.55 | 5 | 50 | 4 | ● | 5 | 6° | 9.2 | 20 | 70 | 10 | ● |
| 1.5 | 7° | 2.73 | 5 | 50 | 4 | ● | 5 | 7° | 9.91 | 20 | 70 | 10 | ● |
| 1.5 | 10° | 3.26 | 5 | 50 | 4 | ● | 5 | 10° | 12 | 20 | 75 | 12 | ● |
| 2 | 30' | 2.1 | 6 | 50 | 4 | ● | 6 | 30' | 6.35 | 20 | 60 | 8 | ● |
| 2 | 1° | 2.21 | 6 | 50 | 4 | ● | 6 | 1° | 6.7 | 20 | 60 | 8 | ● |
| 2 | 1°30' | 2.31 | 6 | 50 | 4 | ● | 6 | 1°30' | 7.05 | 20 | 60 | 8 | ● |
| 2 | 2° | 2.41 | 6 | 50 | 4 | ● | 6 | 2° | 7.4 | 20 | 60 | 8 | ● |
| 2 | 2°30' | 2.52 | 6 | 50 | 4 | ● | 6 | 2°30' | 7.75 | 20 | 60 | 8 | ● |
| 2 | 3° | 2.62 | 6 | 50 | 4 | ● | 6 | 3° | 8 | 20 | 60 | 8 | ● |
| 2 | 4° | 2.84 | 6 | 50 | 4 | ● | 6 | 4° | 8.8 | 20 | 70 | 10 | ● |
| 2 | 5° | 3.05 | 6 | 50 | 4 | ● | 6 | 5° | 9.5 | 20 | 70 | 10 | ● |
| 2 | 6° | 3.26 | 6 | 50 | 4 | ● | 6 | 6° | 10.2 | 20 | 75 | 12 | ● |
| 2 | 7° | 3.47 | 6 | 50 | 4 | ● | 6 | 7° | 10.91 | 20 | 75 | 12 | ● |
| 2 | 10° | 4.11 | 6 | 50 | 6 | ● | 6 | 10° | 13.05 | 20 | 75 | 12 | ● |
| 2.5 | 30' | 2.64 | 8 | 50 | 4 | ● | 8 | 30' | 8.44 | 25 | 70 | 10 | ● |
| 2.5 | 1° | 2.78 | 8 | 50 | 4 | ● | 8 | 1° | 8.87 | 25 | 70 | 10 | ● |
| 2.5 | 1°30' | 2.91 | 8 | 50 | 4 | ● | 8 | 1°30' | 9.31 | 25 | 70 | 10 | ● |
| 2.5 | 2° | 3.05 | 8 | 50 | 4 | ● | 8 | 2° | 9.74 | 25 | 70 | 10 | ● |
| 2.5 | 2°30' | 3.2 | 8 | 50 | 4 | ● | 8 | 2°30' | 10 | 25 | 70 | 10 | ● |
| 2.5 | 3° | 3.33 | 8 | 50 | 4 | ● | 8 | 3° | 10.62 | 25 | 75 | 12 | ● |
| 2.5 | 4° | 3.62 | 8 | 50 | 4 | ● | 8 | 5° | 12.37 | 25 | 90 | 12 | ● |
| 2.5 | 5° | 3.9 | 8 | 50 | 4 | ● | 10 | 30' | 10.61 | 35 | 90 | 10 | ● |
| 2.5 | 6° | 4.18 | 8 | 50 | 6 | ● | 10 | 1° | 11.22 | 35 | 90 | 10 | ● |
| 2.5 | 7° | 4.46 | 8 | 50 | 6 | ● | 10 | 1°30' | 11.83 | 35 | 90 | 10 | ● |
| 2.5 | 10° | 5.32 | 8 | 50 | 6 | ● | 10 | 2° | 12.44 | 35 | 90 | 12 | ● |
| 3 | 30' | 3.17 | 10 | 50 | 6 | ● | 10 | 2°30' | 13.06 | 35 | 90 | 12 | ● |
| 3 | 1° | 3.35 | 10 | 50 | 6 | ● | 10 | 3° | 13.67 | 35 | 90 | 12 | ● |
| 3 | 1°30' | 3.52 | 10 | 50 | 6 | ● | 10 | 5° | 16 | 35 | 100 | 16 | ● |
| 3 | 2° | 3.69 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 2°30' | 3.87 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 3° | 4.05 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 4° | 4.4 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 5° | 4.75 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 6° | 5.1 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 7° | 5.46 | 10 | 50 | 6 | ● | | | | | | | |
| 3 | 10° | 6.53 | 10 | 60 | 8 | ● | | | | | | | |

Work Material

| P | H | M | K | N | S |
|---|---|---|---|---|---|
| ● | ● | ● | ○ | ○ | ○ |

P 鋼鐵
SteelH 硬化鋼 <38HRC
Hardened SteelH 硬化鋼 <48HRC
Hardened SteelH 硬化鋼 <56HRC
Hardened SteelK 鑄鐵
Cast IronN 鋁
AluminiumN 銅
Copper

Feature of product:

斜度立銑刀

採用UMG極超微粒碳化鎢鋼材料。
搭配奈米多層膜塗層具有優異的潤滑及耐磨性。

具有良好的刀具壽命。

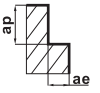
具有相當齊全的角度規格。

適用於各式模具分模斜度銑削加工。

E105X 切削條件參考表

Recommended Milling Conditions

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.6 硬化鋼 Hardened Steel (48~56HRC) | |
|----------------------|---|-------------------------|--------------------------|--|--------------------------|---|--------------------------|--|--------------------------|--|--------------------------|--|--------------------------|
| 切削速度 Vc m/min | | 60 | | 60 | | 60 | | 45 | | 40 | | 35 | |
| 型號 Code No. | 刃徑 Dc | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) | RPM 迴轉速度 (min-1) | Feed 進給速度 (mm/min) |
| E105X-1 | 1 | 15,500 | 120 | 15,500 | 120 | 15,500 | 120 | 13,000 | 85 | 12,000 | 80 | 10,500 | 35 |
| E105X-1.5 | 1.5 | 10,500 | 120 | 10,500 | 120 | 10,500 | 120 | 9,000 | 85 | 8,200 | 80 | 7,000 | 35 |
| E105X-2 | 2 | 7,900 | 145 | 7,900 | 145 | 7,900 | 120 | 6,600 | 85 | 6,300 | 80 | 5,200 | 35 |
| E105X-2.5 | 2.5 | 6,200 | 140 | 6,200 | 140 | 6,200 | 115 | 5,300 | 85 | 4,900 | 80 | 4,200 | 35 |
| E105X-3 | 3 | 5,100 | 140 | 5,100 | 140 | 5,100 | 120 | 4,400 | 80 | 4,000 | 80 | 3,500 | 35 |
| E105X-4 | 4 | 3,800 | 140 | 3,800 | 140 | 3,800 | 115 | 3,400 | 80 | 3,000 | 80 | 2,500 | 35 |
| E105X-5 | 5 | 3,100 | 140 | 3,100 | 140 | 3,100 | 115 | 2,600 | 80 | 2,400 | 75 | 2,000 | 35 |
| E105X-6 | 6 | 2,600 | 140 | 2,600 | 140 | 2,600 | 115 | 2,200 | 80 | 2,000 | 75 | 1,700 | 35 |
| E105X-8 | 8 | 1,900 | 140 | 1,900 | 140 | 1,900 | 115 | 1,600 | 80 | 1,500 | 75 | 1,300 | 35 |
| E105X-10 | 10 | 1,500 | 140 | 1,500 | 140 | 1,500 | 110 | 1,300 | 80 | 1,200 | 75 | 1,000 | 35 |
| 切入深度 (mm) |  | ap:2.5 | | ap:2.5 | | ap:2.5 | | ap:2.5 | | ap:2.5 | | ap:2.5 | |
| | | ae:0.02 | | ae:0.02 | | ae:0.02 | | ae:0.02 | | ae:0.02 | | ae:0.02 | |

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.
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。