

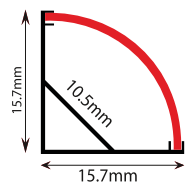


WALL PANEL LAMP  
STRIP FITTINGS  
ROUTER BITS  
LED  
LED NEON  
TRANSFORMERS

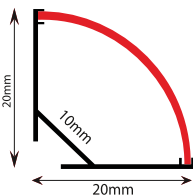
  
al-aser  
UNITED PROJECTS  
W.L.L

       ALASERUNITED

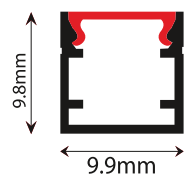
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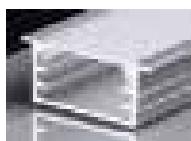
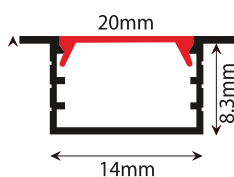
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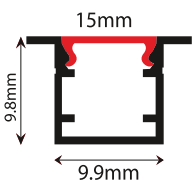
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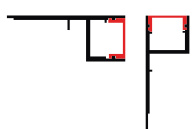
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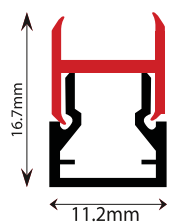
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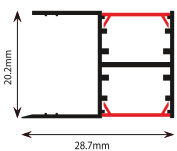
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TRUNKING



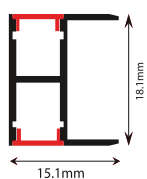
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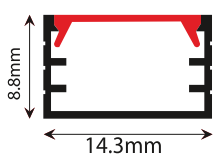
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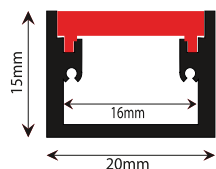
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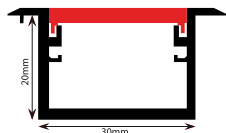
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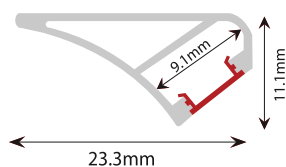
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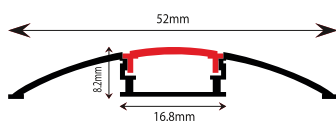
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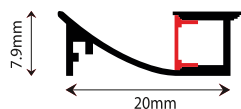
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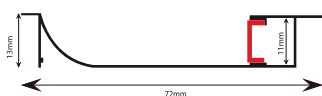
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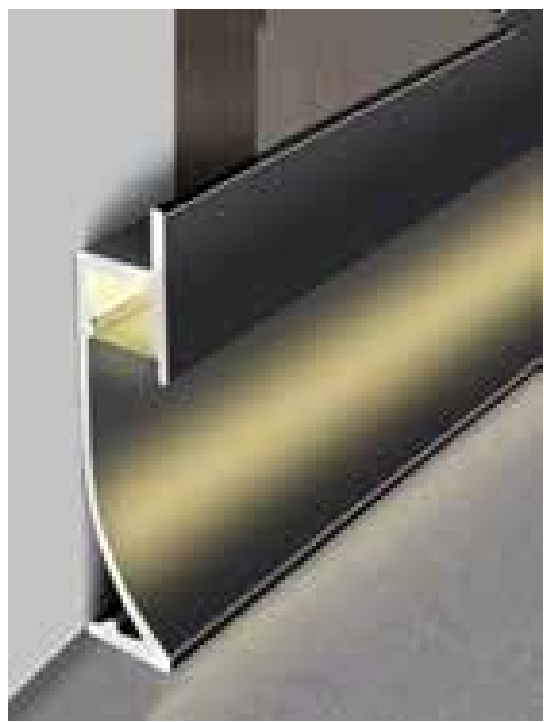
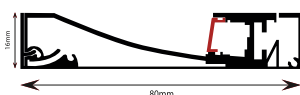
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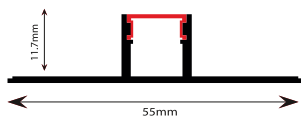
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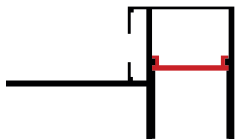
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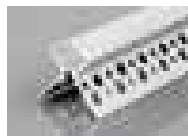
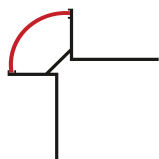
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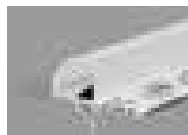
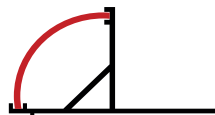
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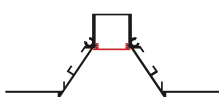
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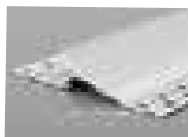
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XT-789



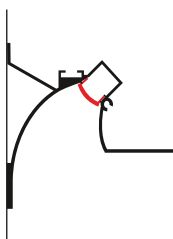
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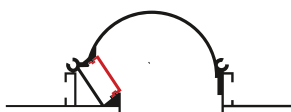
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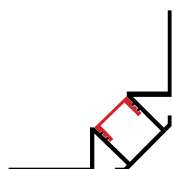
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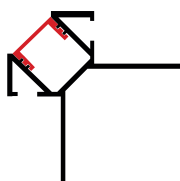
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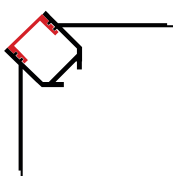
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XT-652

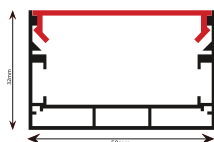


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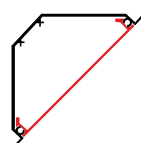




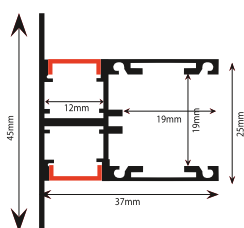
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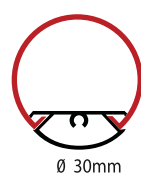
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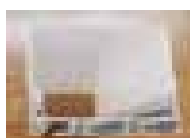
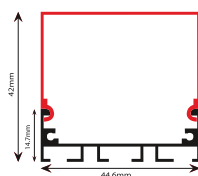
XT-575



XT-290



XT-303



# FOR ALUMINUM MACHINING

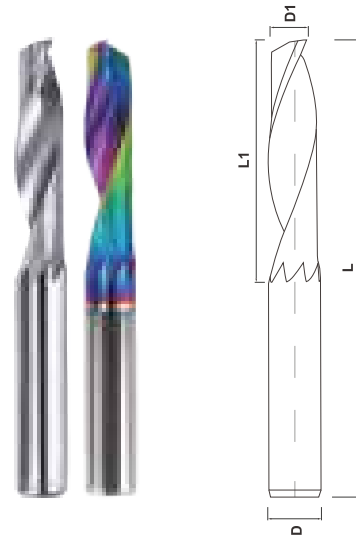
## SA1F/DSA1F(DLC Coated)

### Single Flute, Up Cut, Spiral End Mill

- ★ Excellent combination of upper and lower blades, sharp cutting edge. High precision grinded and polished, high abrasion resistance and temperature resistance, good rigidity, not easy to break. No burrs for Up and down spiral machining. High performance, improve the work efficiency, reduce cost

### Excellent For Cutting:

- Aluminum
- Aluminum 5052
- Aluminum 6061
- Aluminum Alloy
- Aluminum Composite Material(ACM)
- Aluminum Composite Panel(ACP)
- ALPOLIC Copper Composite Material(CCM)



Item Code	Item Code (DLC Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
SA1F-D1.0-L04	DSA1F-D1.0-L04	1	4	3.175	38.1
SA1F-D2.0-L06	DSA1F-D2.0-L06	2	6	3.175	38.1
SA1F-D2.0-L08	DSA1F-D2.0-L08	2	8	3.175	38.1
SA1F-D2.0-L12	DSA1F-D2.0-L12	2	12	3.175	38.1
SA1F-D2.5-L12	DSA1F-D2.5-L12	2.5	12	3.175	38.1
SA1F-D3.1-L08	DSA1F-D3.1-L08	3.175	8	3.175	38.1
SA1F-D3.1-L12	DSA1F-D3.1-L12	3.175	12	3.175	38.1
SA1F-D3.1-L17	DSA1F-D3.1-L17	3.175	17	3.175	38.1
SA1F-D3.1-L22	DSA1F-D3.1-L22	3.175	22	3.175	50
SA1F-D4.0-L08	DSA1F-D4.0-L08	4	8	4	50
SA1F-D4.0-L12	DSA1F-D4.0-L12	4	12	4	50
SA1F-D4.0-L15	DSA1F-D4.0-L15	4	15	4	50
SA1F-D4.0-L17	DSA1F-D4.0-L17	4	17	4	50
SA1F-D4.0-L22	DSA1F-D4.0-L22	4	22	4	50
SA1F-D4.0-L25	DSA1F-D4.0-L25	4	25	4	50
SA1F-D5.0-L22	DSA1F-D5.0-L22	5	22	5	50
SA1F-D6.0-L12	DSA1F-D6.0-L12	6	12	6	50
SA1F-D6.0-L15	DSA1F-D6.0-L15	6	15	6	50
SA1F-D6.0-L17	DSA1F-D6.0-L17	6	17	6	50
SA1F-D6.0-L22	DSA1F-D6.0-L22	6	22	6	50
SA1F-D6.0-L25	DSA1F-D6.0-L25	6	25	6	50
SA1F-D6.0-L32	DSA1F-D6.0-L32	6	32	6	75
SA1F-D8.0-L17	DSA1F-D8.0-L17	8	17	8	60
SA1F-D8.0-L22	DSA1F-D8.0-L22	8	22	8	60
SA1F-D8.0-L25	DSA1F-D8.0-L25	8	25	8	60
SA1F-D8.0-L32	DSA1F-D8.0-L32	8	32	8	75
SA1F-D10.0-L32	DSA1F-D10.0-L32	10	32	10	75
SA1F-D10.0-L42	DSA1F-D10.0-L42	10	42	10	100
SA1F-D12.0-L32	DSA1F-D12.0-L32	10	32	12	75
SA1F-D12.0-L42	DSA1F-D12.0-L42	10	42	12	100

# FOR WOODWORKING MACHINING

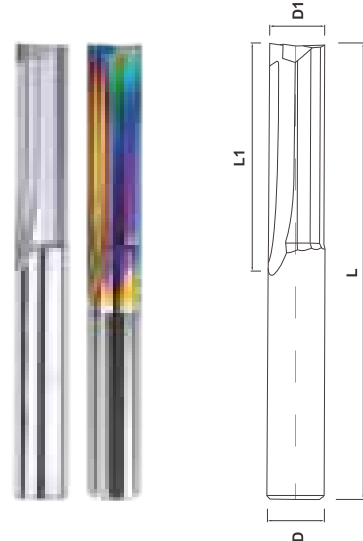
## ST2F/DST2F(DLC Coated)

### 2 Flute, Straight Shank, Straight Cut End Mill

- ★ The spiral flutes on end mill facilitate efficient chip evacuation, preventing chip clogging and improving overall cutting performance. With its compound blade configuration and spiral flutes, the end mill produces smooth surface finishes on your workpieces. It eliminates the need for additional sanding or finishing processes, saving you time and effort

#### Excellent For Cutting:

- Hardwood/Softwood
- Laminate
- MDF/HDF
- Veneered Plywood
- Particle Board
- Compression



Item Code	Item Code (DLC Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
ST2F-D2.0-L12	DST2F-D2.0-L12	2	12	3.175	38.1
ST2F-D2.0-L17	DST2F-D2.0-L17	2	17	3.175	38.1
ST2F-D2.0-L22	DST2F-D2.0-L22	2	22	3.175	50
ST2F-D3.1-L12	DST2F-D3.1-L12	3.175	12	3.175	38.1
ST2F-D3.1-L15	DST2F-D3.1-L15	3.175	15	3.175	38.1
ST2F-D3.1-L17	DST2F-D3.1-L17	3.175	17	3.175	38.1
ST2F-D3.1-L22	DST2F-D3.1-L22	3.175	22	3.175	50
ST2F-D3.1-L25	DST2F-D3.1-L25	3.175	25	3.175	50
ST2F-D3.1-L28	DST2F-D3.1-L28	3.175	28	3.175	50
ST2F-D3.1-L32	DST2F-D3.1-L32	3.175	32	3.175	60
ST2F-D4.0-L12	DST2F-D4.0-L12	4	12	4	50
ST2F-D4.0-L17	DST2F-D4.0-L17	4	17	4	50
ST2F-D4.0-L22	DST2F-D4.0-L22	4	22	4	50
ST2F-D4.0-L25	DST2F-D4.0-L25	4	25	4	50
ST2F-D4.0-L28	DST2F-D4.0-L28	4	28	4	50
ST2F-D4.0-L32	DST2F-D4.0-L32	4	32	4	60
ST2F-D5.0-L22	DST2F-D5.0-L22	5	22	5	50
ST2F-D6.0-L22	DST2F-D6.0-L22	6	22	6	50
ST2F-D6.0-L25	DST2F-D6.0-L25	6	25	6	50
ST2F-D6.0-L28	DST2F-D6.0-L28	6	28	6	75
ST2F-D6.0-L32	DST2F-D6.0-L32	6	32	6	75
ST2F-D6.0-L42	DST2F-D6.0-L42	6	42	6	75
ST2F-D6.0-L52	DST2F-D6.0-L52	6	52	6	100
ST2F-D8.0-L32	DST2F-D8.0-L32	8	32	8	75
ST2F-D8.0-L42	DST2F-D8.0-L42	8	42	8	100
ST2F-D8.0-L52	DST2F-D8.0-L52	8	52	8	100
ST2F-D8.0-L62	DST2F-D8.0-L62	8	62	8	100
ST2F-D10.0-L52	DST2F-D10.0-L52	10	52	10	100
ST2F-D12.0-L52	DST2F-D12.0-L52	12	52	12	100

# FOR ALUMINUM MACHINING

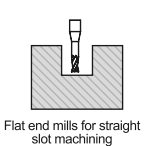
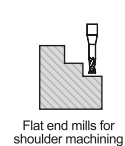
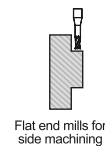
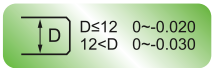
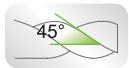
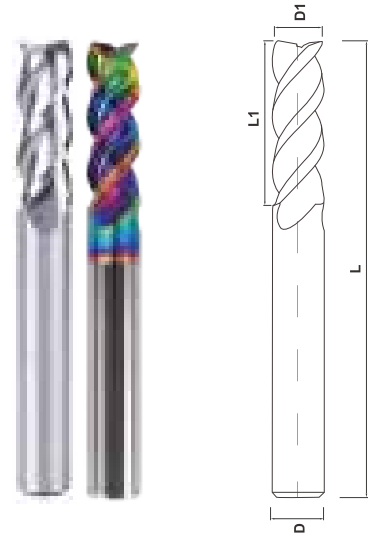
## AU3E/DAU3E(DLC Coated)

### 3 Flute, Straight Shank, Standard Length, Flat End Mill

- ★ Milling Cutter 3 blade Endmills CNC Machining Route bit Alloy Tungsten Steel Tool Top Aluminum Woodwork Milling Cutter

#### Suitable For Processing:

- Aluminum alloy
- Acrylic
- PVC
- MDF
- Density board
- Wood



Item Code	Item Code (DLC Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
AU3E-D1.0-L03	DAU3E-D1.0-L03	1	3	4	50
AU3E-D1.5-L4.5	DAU3E-D1.5-L4.5	1.5	4.5	4	50
AU3E-D2.0-L06	DAU3E-D2.0-L06	2	6	4	50
AU3E-D2.5-L7.5	DAU3E-D2.5-L7.5	2.5	7.5	4	50
AU3E-D3.0-L09	DAU3E-D3.0-L09	3	9	4	50
AU3E-D3.5-L11	DAU3E-D3.5-L11	3.5	11	4	50
AU3E-D4.0-L12	DAU3E-D4.0-L12	4	12	4	50
AU3E-D5.0-L15	DAU3E-D5.0-L15	5	15	6	50
AU3E-D6.0-L18	DAU3E-D6.0-L18	6	18	6	50
AU3E-D8.0-L24	DAU3E-D8.0-L24	8	24	8	60
AU3E-D10.0-L30	DAU3E-D10.0-L30	10	30	10	75
AU3E-D12.0-L35	DAU3E-D12.0-L35	12	35	12	75



# FOR ACRYLIC MACHINING

## SP1F

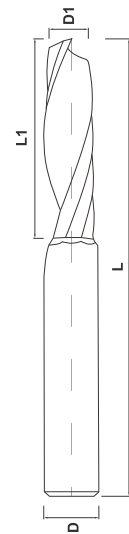
**DSP1F(DLC Coated)/ZSP1F(ZrN Coated)/ASP1F(TAC Coated)**

Single Flute, Straight Shank, Up Cut, Spiral End Mill

- ★ Using the highest quality carbide, these bits have a special proprietary edge processing system featuring a super high polished cutting edge with a unique "mirror finish". The result is clean cuts, less chance for chip re-welding, a superior surface finish and longer tool life

### Excellent For Cutting:

- Acrylic
- Aluminum
- Wood
- MDF
- Plywood



Item Code	Item Code (Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
SP1F-D1.0-L03	D/Z/ASP1F-D1.0-L03	1	3	3.175	38.1
SP1F-D1.0-L04	D/Z/ASP1F-D1.0-L04	1	4	3.175	38.1
SP1F-D1.5-L05	D/Z/ASP1F-D1.5-L05	1.5	5	3.175	38.1
SP1F-D2.0-L04	D/Z/ASP1F-D2.0-L04	2	4	3.175	38.1
SP1F-D2.0-L06	D/Z/ASP1F-D2.0-L06	2	6	3.175	38.1
SP1F-D2.0-L08	D/Z/ASP1F-D2.0-L08	2	8	3.175	38.1
SP1F-D2.5-L06	D/Z/ASP1F-D2.5-L06	2.5	6	3.175	38.1
SP1F-D2.5-L08	D/Z/ASP1F-D2.5-L08	2.5	8	3.175	38.1
SP1F-D2.5-L10	D/Z/ASP1F-D2.5-L10	2.5	10	3.175	38.1
SP1F-D3.1-L06	D/Z/ASP1F-D3.1-L06	3.175	6	3.175	38.1
SP1F-D3.1-L08	D/Z/ASP1F-D3.1-L08	3.175	8	3.175	38.1
SP1F-D3.1-L10	D/Z/ASP1F-D3.1-L10	3.175	10	3.175	38.1
SP1F-D3.1-L12	D/Z/ASP1F-D3.1-L12	3.175	12	3.175	38.1
SP1F-D3.1-L15	D/Z/ASP1F-D3.1-L15	3.175	15	3.175	38.1
SP1F-D3.1-L17	D/Z/ASP1F-D3.1-L17	3.175	17	3.175	38.1
SP1F-D3.1-L22	D/Z/ASP1F-D3.1-L22	3.175	22	3.175	50
SP1F-D4.0-L08	D/Z/ASP1F-D4.0-L08	4	8	4	50
SP1F-D4.0-L12	D/Z/ASP1F-D4.0-L12	4	12	4	50
SP1F-D4.0-L15	D/Z/ASP1F-D4.0-L15	4	15	4	50
SP1F-D4.0-L17	D/Z/ASP1F-D4.0-L17	4	17	4	50
SP1F-D4.0-L22	D/Z/ASP1F-D4.0-L22	4	22	4	50
SP1F-D5.0-L20	D/Z/ASP1F-D5.0-L20	5	20	5	50
SP1F-D6.0-L12	D/Z/ASP1F-D6.0-L12	6	12	6	50
SP1F-D6.0-L15	D/Z/ASP1F-D6.0-L15	6	15	6	50
SP1F-D6.0-L17	D/Z/ASP1F-D6.0-L17	6	17	6	50
SP1F-D6.0-L22	D/Z/ASP1F-D6.0-L22	6	22	6	50
SP1F-D6.0-L32	D/Z/ASP1F-D6.0-L32	6	32	6	75
SP1F-D8.0-L32	D/Z/ASP1F-D8.0-L32	8	32	8	75
SP1F-D10.0-L45	D/Z/ASP1F-D10.0-L45	10	45	10	100
SP1F-D12.0-L45	D/Z/ASP1F-D12.0-L45	12	45	12	100

# FOR ALUMINUM MACHINING

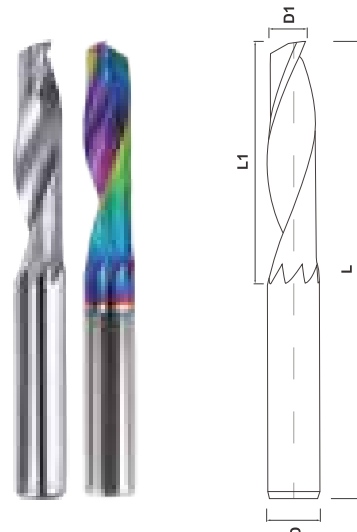
## SA1F/DSA1F(DLC Coated)

### Single Flute, Up Cut, Spiral End Mill

- ★ Excellent combination of upper and lower blades, sharp cutting edge. High precision grinded and polished, high abrasion resistance and temperature resistance, good rigidity, not easy to break. No burrs for Up and down spiral machining. High performance, improve the work efficiency, reduce cost

### Excellent For Cutting:

- Aluminum
- Aluminum 5052
- Aluminum 6061
- Aluminum Alloy
- Aluminum Composite Material(ACM)
- Aluminum Composite Panel(ACP)
- ALPOLIC Copper Composite Material(CCM)



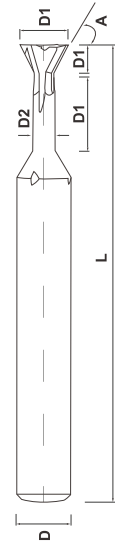
Item Code	Item Code (DLC Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
SA1F-D1.0-L04	DSA1F-D1.0-L04	1	4	3.175	38.1
SA1F-D2.0-L06	DSA1F-D2.0-L06	2	6	3.175	38.1
SA1F-D2.0-L08	DSA1F-D2.0-L08	2	8	3.175	38.1
SA1F-D2.0-L12	DSA1F-D2.0-L12	2	12	3.175	38.1
SA1F-D2.5-L12	DSA1F-D2.5-L12	2.5	12	3.175	38.1
SA1F-D3.1-L08	DSA1F-D3.1-L08	3.175	8	3.175	38.1
SA1F-D3.1-L12	DSA1F-D3.1-L12	3.175	12	3.175	38.1
SA1F-D3.1-L17	DSA1F-D3.1-L17	3.175	17	3.175	38.1
SA1F-D3.1-L22	DSA1F-D3.1-L22	3.175	22	3.175	50
SA1F-D4.0-L08	DSA1F-D4.0-L08	4	8	4	50
SA1F-D4.0-L12	DSA1F-D4.0-L12	4	12	4	50
SA1F-D4.0-L15	DSA1F-D4.0-L15	4	15	4	50
SA1F-D4.0-L17	DSA1F-D4.0-L17	4	17	4	50
SA1F-D4.0-L22	DSA1F-D4.0-L22	4	22	4	50
SA1F-D4.0-L25	DSA1F-D4.0-L25	4	25	4	50
SA1F-D5.0-L22	DSA1F-D5.0-L22	5	22	5	50
SA1F-D6.0-L12	DSA1F-D6.0-L12	6	12	6	50
SA1F-D6.0-L15	DSA1F-D6.0-L15	6	15	6	50
SA1F-D6.0-L17	DSA1F-D6.0-L17	6	17	6	50
SA1F-D6.0-L22	DSA1F-D6.0-L22	6	22	6	50
SA1F-D6.0-L25	DSA1F-D6.0-L25	6	25	6	50
SA1F-D6.0-L32	DSA1F-D6.0-L32	6	32	6	75
SA1F-D8.0-L17	DSA1F-D8.0-L17	8	17	8	60
SA1F-D8.0-L22	DSA1F-D8.0-L22	8	22	8	60
SA1F-D8.0-L25	DSA1F-D8.0-L25	8	25	8	60
SA1F-D8.0-L32	DSA1F-D8.0-L32	8	32	8	75
SA1F-D10.0-L32	DSA1F-D10.0-L32	10	32	10	75
SA1F-D10.0-L42	DSA1F-D10.0-L42	10	42	10	100
SA1F-D12.0-L32	DSA1F-D12.0-L32	10	32	12	75
SA1F-D12.0-L42	DSA1F-D12.0-L42	10	42	12	100

## ► NON-STANDARD END MILL DCM(Nano Coated)

- ★ The overall material is made of tungsten steel, which has very high seismic resistance and wear resistance. It has a large capacity chip removal groove and an integrated processing blade, making chip removal more smooth. The use of sharp edge technology enables fast and efficient cutting, effectively reducing the number of tool changes. The standard round and straight shank design has strong compatibility, tight bite, high bearing capacity, and is not easy to break

### Excellent For Cutting:

- Copper
- Aluminum
- Carbon steel
- Cast iron
- Mold steel
- Alloy steel
- Stainless steel



Item Code	Cutting Dia D1(mm)	Angle Degree A(°)	Cutting Dia D2(mm)	Cutting length L1(mm)	Cutting length L2(mm)	Shank Dia D(mm)	Overall length L(mm)
DCM-D1.5-45DEG	1.5	45	0.75	0.4	3	4	50
DCM-D1.5-60DEG	1.5	60	0.75	0.6	3	4	50
DCM-D2.0-30DEG	2	30	1	0.3	3	4	50
DCM-D2.0-45DEG	2	45	1	0.5	3	4	50
DCM-D2.0-60DEG	2	60	1	0.9	3	4	50
DCM-D3.0-30DEG	3	30	1.5	0.4	4	4	50
DCM-D3.0-45DEG	3	45	1.5	0.7	4	4	50
DCM-D3.0-60DEG	3	60	1.5	1.3	4	4	50
DCM-D4.0-30DEG	4	30	2	0.6	6	4	50
DCM-D4.0-45DEG	4	45	2	1	6	4	50
DCM-D4.0-60DEG	4	60	2	1.7	6	4	50
DCM-D5.0-45DEG	5	45	2.5	1.2	6	5	50
DCM-D5.0-60DEG	5	60	2.5	2.2	6	5	50
DCM-D6.0-30DEG	6	30	3	0.9	8	6	50
DCM-D6.0-45DEG	6	45	3	1.5	8	6	50
DCM-D6.0-60DEG	6	60	3	2.6	8	6	50
DCM-D8.0-30DEG	8	30	4	1.1	10	8	60
DCM-D8.0-45DEG	8	45	4	2	10	8	60
DCM-D8.0-60DEG	8	60	4	3.5	10	8	60
DCM-D10.0-30DEG	10	30	4	1.7	10	10	60
DCM-D10.0-45DEG	10	45	4	3	10	10	60
DCM-D10.0-60DEG	10	60	4	5.2	10	10	60
DCM-D12.0-30DEG	12	30	5	2	12	12	60
DCM-D12.0-45DEG	12	45	5	3.5	12	12	60
DCM-D12.0-60DEG	12	60	5	6.1	12	12	60
DCM-D14.0-30DEG	14	30	6.5	2.2	20	14	80
DCM-D14.0-45DEG	14	45	6.5	3.7	20	14	80
DCM-D14.0-60DEG	14	60	6.5	6.5	20	14	80
DCM-D16.0-30DEG	16	30	7.5	2.5	20	16	80
DCM-D16.0-45DEG	16	45	7.5	4.3	20	16	80
DCM-D16.0-60DEG	16	60	7.5	7.4	20	16	80
DCM-D20.0-30DEG	20	30	9.5	3	20	20	80
DCM-D20.0-45DEG	20	45	9.5	5.3	20	20	80
DCM-D20.0-60DEG	20	60	9.5	9.1	20	20	80

# FOR WOODWORKING MACHINING

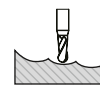
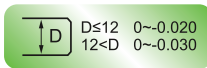
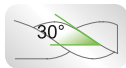
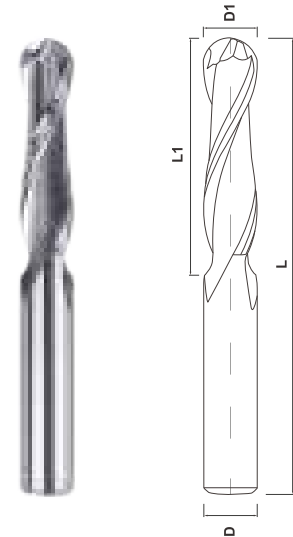
## W2B

### 2 Flute, Straight Shank, Standard Length, Ball Nose End Mill

- ★ The milling cutter achieves a clear and smooth cutting effect with its 2-edge spiral design. It can effectively reduce wood tearing and rough edges, the unique design of the double slots and chip breakers effectively manage chips and debris, preventing clogs and ensuring smooth cutting action.making your carpentry project more exquisite and professional

#### Excellent For Cutting:

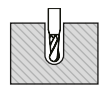
- Softwood/Hardwood
- MDF/HDF
- Softwood/Hardwood
- Aluminum /Non-Ferrous
- MDF
- Soft/Hard Plastic
- Sign Foam



Ball nose end mills for profile machining



Ball nose end mills for cavity machining



Ball nose end mills for slot machining

Item Code	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
W2B-R0.5-L04	1	4	3.175	38.1
W2B-R0.75-L06	1.5	6	3.175	38.1
W2B-R1.0-L08	2	8	3.175	38.1
W2B-R1.5-L12	3	12	3.175	38.1
W2B-R1.5-L22	3	22	3.175	50
W2B-R2.0-L12	4	12	4	50
W2B-R2.0-L22	4	22	4	50
W2B-R3.0-L18	6	18	6	50
W2B-R3.0-L24	6	24	6	50
W2B-R3.0-L32	6	32	6	75
W2B-R4.0-L22	8	22	8	60
W2B-R4.0-L32	8	32	8	75
W2B-R4.0-L42	8	42	8	100
W2B-R5.0-L35	10	35	10	75
W2B-R5.0-L45	10	45	10	100
W2B-R6.0-L35	12	35	12	75
W2B-R6.0-L45	12	45	12	100

# FOR WOODWORKING MACHINING

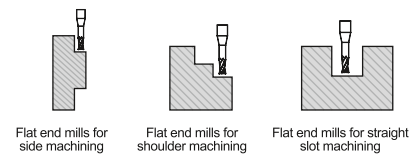
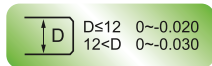
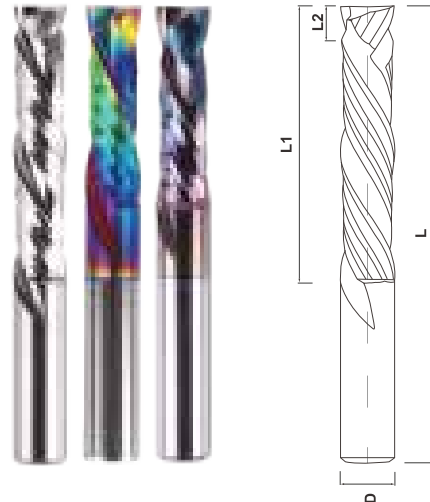
## SP2FC/DSP2FC(DLC Coated)/ASP2FC(TAC Coated)

### 2 Flute, Straight Shank, Compression End Mill

- ★ The 2-flute design provides optimal chip evacuation, ensuring smooth and efficient cutting. Each flute is strategically positioned to maximize material removal, allowing you to accomplish your woodworking tasks quickly and effortlessly

#### Excellent For Cutting:

- Hardwood/Softwood
- Laminate
- MDF/HDF
- Veneered Plywood
- Particle Board



Item Code	Item Code (DLC/TAC Coated)	Cutting Dia D1(mm)	Cutting length L1(mm)	Up Cutting length L2(mm)	Shank Dia D(mm)	Overall length L(mm)
SP2FC-D3.1-L12	DSP2FC/ASP2FC-D3.1-L12	3.1	12	3.1	3.175	38.1
SP2FC-D3.1-L17	DSP2FC/ASP2FC-D3.1-L17	3.1	17	3.1	3.175	38.1
SP2FC-D3.1-L22	DSP2FC/ASP2FC-D3.1-L22	3.1	22	5.5	3.175	50
SP2FC-D4.0-L17	DSP2FC/ASP2FC-D4.0-L17	4	17	4	4	50
SP2FC-D4.0-L22	DSP2FC/ASP2FC-D4.0-L22	4	22	4	4	50
SP2FC-D4.0-L25	DSP2FC/ASP2FC-D4.0-L25	4	25	4	4	50
SP2FC-D5.0-L17	DSP2FC/ASP2FC-D5.0-L17	5	17	5	5	50
SP2FC-D5.0-L22	DSP2FC/ASP2FC-D5.0-L22	5	22	5	5	50
SP2FC-D6.0-L17	DSP2FC/ASP2FC-D6.0-L17	6	17	6	6	50
SP2FC-D6.0-L22	DSP2FC/ASP2FC-D6.0-L22	6	22	6	6	50
SP2FC-D6.0-L25	DSP2FC/ASP2FC-D6.0-L25	6	25	6	6	60
SP2FC-D6.0-L32	DSP2FC/ASP2FC-D6.0-L32	6	32	6	6	75
SP2FC-D8.0-L22	DSP2FC/ASP2FC-D8.0-L22	8	22	8	8	60
SP2FC-D8.0-L32	DSP2FC/ASP2FC-D8.0-L32	8	32	8	8	75
SP2FC-D8.0-L45	DSP2FC/ASP2FC-D8.0-L45	8	45	8	8	100
SP2FC-D10.0-L35	DSP2FC/ASP2FC-D10.0-L35	10	35	10	10	75
SP2FC-D10.0-L45	DSP2FC/ASP2FC-D10.0-L45	10	45	10	10	100
SP2FC-D12.0-L35	DSP2FC/ASP2FC-D12.0-L35	12	35	12	12	75
SP2FC-D12.0-L45	DSP2FC/ASP2FC-D12.0-L45	12	45	12	12	100
SP2FC-D14.0-L52	DSP2FC/ASP2FC-D14.0-L52	14	65	14	14	100
SP2FC-D16.0-L52	DSP2FC/ASP2FC-D16.0-L52	16	65	16	16	100

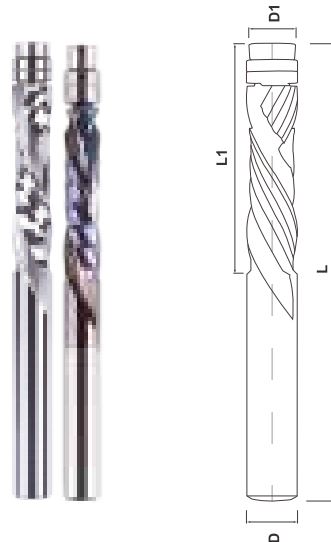
## FOR WOODWORKING MACHINING WTUD2F/AWTUD2F(TAC Coated)

2 Flute, Straight Shank, Up and Down Cut, Ball Bearing Guide

- ★ The Ultra-Performance pattern router bit design with bottom bearing, Compression cut prevents fraying and splintering, left perfect edges. The bit is made of premium carbide according to stringent Industrial grade quality standards provide tough, resists wear and high cutting performance

### Excellent For Cutting:

- Softwood/Hardwood
- Laminate
- Plywood



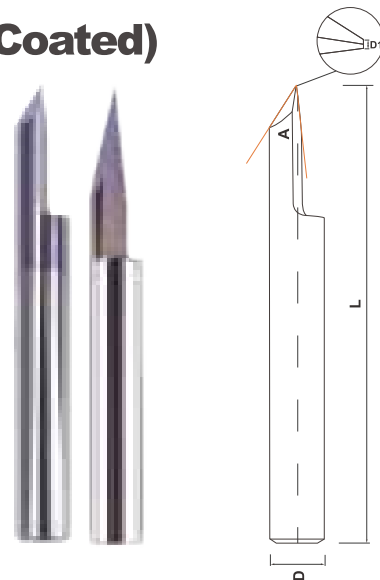
Item Code	Item Code D1(mm)	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
WTUD2F-D6.0-L28	AWTUD2F-D6.0-L28	6	28	6	75
WTUD2F-D8.0-L22	AWTUD2F-D8.0-L22	8	22	8	60
WTUD2F-D8.0-L32	AWTUD2F-D8.0-L32	8	32	8	75
WTUD2F-D8.0-L40	AWTUD2F-D8.0-L40	8	40	8	100

## NON-STANDARD END MILL Flat-tipped Cutter(TiAlN Coated/TAC Coated)

- ★ Suitable for Various Types of Engraving Machines/Drilling Machines/Various High-speed Engraving and Milling Machines, Bob's CNC, CNC Router, X-carve CNC Router, Dremel Routing etc. Achieve precise and intricate woodworking details with ease using our router bit set. The carefully engineered profiles guarantee precise shaping and profiling, enabling you to achieve the exact results you desire

### Excellent For Cutting:

- Wood
- MDF
- Plywood
- Compression
- Hardwood
- OAK



Item Code (TiAlN Coated)	Item Code (TAC Coated)	Cutting Dia D1(mm)	Angle Degree A(°)	Shank Dia D(mm)	Overall length L(mm)
6-30°-0.1	A6-30°-0.1	0.1	30°	6	50
6-30°-0.2	A6-30°-0.2	0.2	30°	6	50
6-30°-0.3	A6-30°-0.3	0.3	30°	6	50
6-60°-0.1	A6-60°-0.1	0.1	60°	6	50
6-60°-0.2	A6-60°-0.2	0.2	60°	6	50
6-60°-0.3	A6-60°-0.3	0.3	60°	6	50
6-90°-0.1	A6-90°-0.1	0.1	90°	6	50
6-90°-0.2	A6-90°-0.2	0.2	90°	6	50
6-90°-0.3	A6-90°-0.3	0.3	90°	6	50

# ► FOR STEEL AND STAINLESS STEEL MACHINING

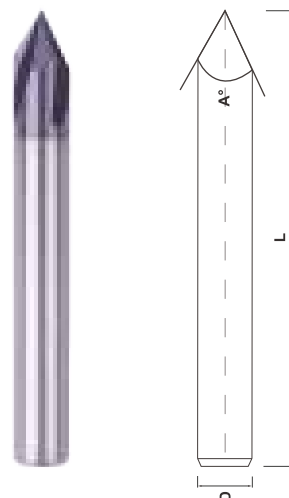
## ECP3F

### 3 Flute, Straight Shank, Deburring End Mill

★ Solid carbide tungsten steel chamfering and deburring end mills for general machining, TiAlN coated, 60,90,120 degree, cnc engraving and carving bit

#### Application:

- 0-55 HRC chamfer milling



Item Code	Angle Degree A(°)	Shank Dia D(mm)	Overall length L(mm)
ECP3F-D3.0-R60	60°	3	50
ECP3F-D4.0-R60	60°	4	50
ECP3F-D6.0-R60	60°	6	50
ECP3F-D8.0-R60	60°	8	60
ECP3F-D10.0-R60	60°	10	75
ECP3F-D12.0-R60	60°	12	75
ECP3F-D3.0-R90	90°	3	50
ECP3F-D4.0-R90	90°	4	50
ECP3F-D6.0-R90	90°	6	50
ECP3F-D8.0-R90	90°	8	60
ECP3F-D10.0-R90	90°	10	75
ECP3F-D12.0-R90	90°	12	75
ECP3F-D3.0-R120	120°	3	50
ECP3F-D4.0-R120	120°	4	50
ECP3F-D6.0-R120	120°	6	50
ECP3F-D8.0-R120	120°	8	60
ECP3F-D10.0-R120	120°	10	75
ECP3F-D12.0-R120	120°	12	75

# ► FOR STEEL AND STAINLESS STEEL MACHINING

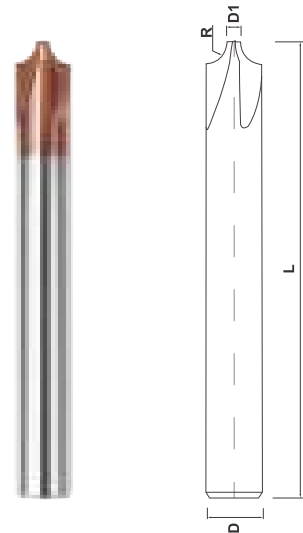
## ICT4F

### 4 Flute, Straight Shank, Corner Rounding End Mill

- ★ Solid carbide tungsten steel H-Si coated 4 flutes high performance inner radius corner rounding and chamfering end mills for general machining

#### Application:

- 0-55 HRC chamfer milling



Item Code	Head Dia D1(mm)	Inner Radius R(mm)	Shank Dia D(mm)	Overall length L(mm)
ICT4F-R0.5-H4	3	0.5	4	50
ICT4F-R0.75-H4	2.5	0.75	4	50
ICT4F-R1.0-H4	2	1	4	50
ICT4F-R1.5-H4	1	1.5	4	50
ICT4F-R1.5-H6	3	1.5	6	50
ICT4F-R2.0-H6	2	2	6	50
ICT4F-R2.5-H8	3	2.5	8	60
ICT4F-R3.0-H8	2	3	8	60
ICT4F-R4.0-H10	2	4	10	75
ICT4F-R5.0-H12	2	5	12	75
ICT4F-R6.0-H14	2	6	14	100



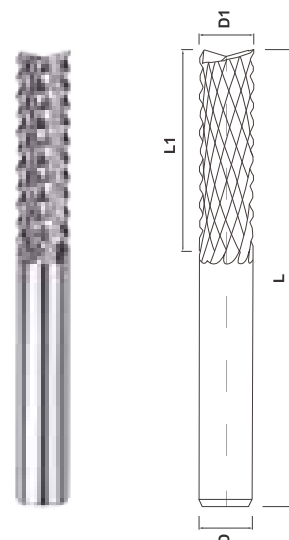
# WOODWORKING MACHINING

## PCB

- ★ Especially for cutting fiberglass, fiberglass PCB Board, composites, phenolic and other highly abrasive material. Works well on epoxies made with carbon, glass and composite material. The up-cut/down cut diamond pattern cutting edges effectively grinds through the material evenly in all direction

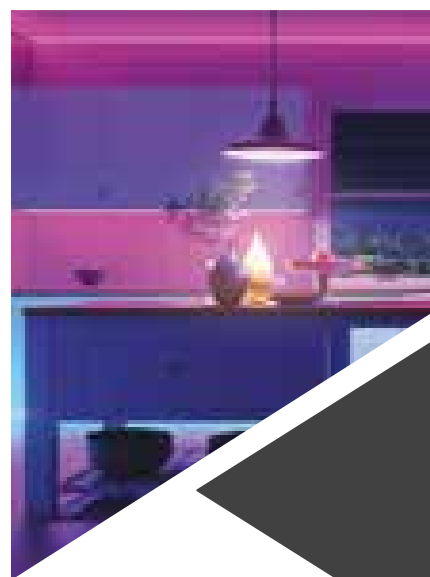
### Excellent For Cutting:

- Softwood/Hardwood
- PCB Board
- Carbon Fiber
- Composites
- Fiberglass
- Fiberglass PCB Board
- Fiber Reinforced Plastic(FRP)
- G10/FR-4 and G11/FR-5 Glass Epoxy Composite Laminate Material
- Glass Reinforced Plastic(GRP)
- Glass Fiber Reinforced Polymer Plastic Material(GFR)
- Phenolic
- Phenolic "Garolite" G-7



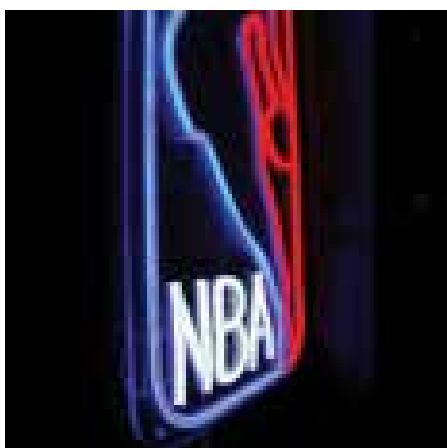
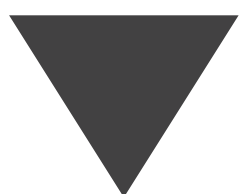
Item Code	Cutting Dia D1(mm)	Cutting length L1(mm)	Shank Dia D(mm)	Overall length L(mm)
PCB-D3.1-12-D3.175	3.175	12	3.175	38.1
PCB-D3.1-15-D3.175	3.175	15	3.175	38.1
PCB-D3.1-17-D3.175	3.175	17	3.175	38.1
PCB-D3.1-22-D3.175	3.175	22	3.175	50
PCB-D3.1-25-D3.175	3.175	25	3.175	50
PCB-D4.0-12-D4	4	12	4	50
PCB-D4.0-17-D4	4	17	4	50
PCB-D4.0-22-D4	4	22	4	50
PCB-D4.0-25-D4	4	25	4	50
PCB-D4.0-32-D4	4	32	4	55
PCB-D6.0-22-D6	6	22	6	50
PCB-D6.0-32-D6	6	32	6	60
PCB-D6.0-42-D6	6	42	6	75
PCB-D6.0-52-D6	6	52	6	85
PCB-D6.0-62-D6	6	62	6	100
PCB-D8.0-25-D8	8	25	8	75
PCB-D8.0-32-D8	8	32	8	75
PCB-D8.0-42-D8	8	42	8	75
PCB-D10.0-42-D10	10	42	10	75
PCB-D10.0-52-D10	10	52	10	100
PCB-D12.0-40-D12	12	40	12	75
PCB-D12.0-52-D12	12	52	12	100

# LED





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# LED TRANSFORMERS



LED Transformers  
TRF-IP67-60W



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