

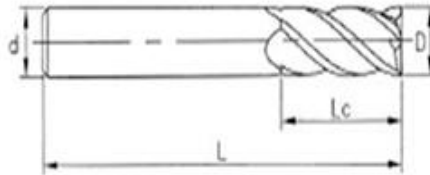
# High Precision End Mills

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## HRC45 Carbide 4 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, good wear resistance and Corrosion resistance

**Coating:** AITiN, high aluminum content provides excellent hot hardness and oxidation resistance

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 4 Flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

**Cutting Parameters**

$V_c=220(120-180)m/min$

$A_p=1/3D(1/8-1/2D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

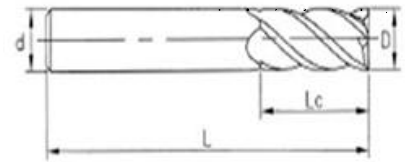
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450S-4030	3	8	3	50	4
CF450S-4030L	3	12	3	75	4
CF450S-4030L10	3	15	3	100	4
CF450S-4010	1	3	4	50	4
CF450S-4010L	1	3	4	75	4
CF450S-4010L10	1	3	4	100	4
CF450S-4015	1.5	4	4	50	4
CF450S-4015L	1.5	4	4	75	4
CF450S-4015L10	1.5	4	4	100	4
CF450S-4020	2	6	4	50	4
CF450S-4020L	2	6	4	75	4
CF450S-4020L10	2	6	4	100	4
CF450S-4025	2.5	8	4	50	4
CF450S-4030F	3	8	4	50	4
CF450S-4030FL	3	8	4	75	4
CF450S-4030FL10	3	8	4	100	4

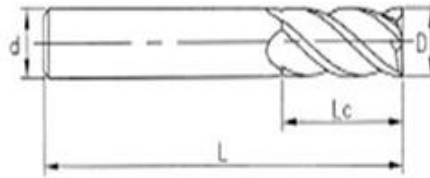
# HRC45 Carbide 4 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450S-4035	3.5	10	4	50	4
CF450S-4040	4	10	4	50	4
CF450S-4040L	4	16	4	75	4
CF450S-4040L10	4	20	4	100	4
CF450S-4050	5	13	5	50	4
CF450S-4050L	5	20	5	75	4
CF450S-4050L10	5	25	5	100	4
CF450S-4010F	1	3	6	50	4
CF450S-4015F	1.5	4	6	50	4
CF450S-4020F	2	5	6	50	4
CF450S-4025F	2.5	7	6	50	4
CF450S-4030F6	3	8	6	50	4
CF450S-4035F	3.5	10	6	50	4
CF450S-4040F	4	10	6	50	4
CF450S-4045	4.5	12	6	50	4
CF450S-4050F	5	13	6	50	4
CF450S-4050FL	5	20	6	75	4
CF450S-4055	5.5	14	6	50	4
CF450S-4060	6	15	6	50	4
CF450S-4060L	6	20	6	75	4
CF450S-4060L10	6	30	6	100	4
CF450S-4060L15	6	40	6	150	4
CF450S-4070	7	18	8	60	4
CF450S-4080	8	20	8	60	4
CF450S-4080L	8	28	8	75	4
CF450S-4080L10	8	35	8	100	4
CF450S-4080L15	8	50	8	150	4
CF450S-4090	9	23	10	75	4
CF450S-4100	10	25	10	75	4
CF450S-4100L	10	40	10	100	4
CF450S-4100L15	10	50	10	150	4
CF450S-4110	11	28	12	75	4
CF450S-4120	12	30	12	75	4
CF450S-4120L10	12	45	12	100	4
CF450S-4120L15	12	60	12	150	4
CF450S-4130	13	40	14	100	4
CF450S-4140	14	35	14	80	4
CF450S-4140L10	14	45	14	100	4
CF450S-4140L15	14	60	14	150	4
CF450S-4150	15	40	16	100	4
CF450S-4160	16	45	16	100	4
CF450S-4160L15	16	60	16	150	4
CF450S-4180	18	45	18	100	4
CF450S-4180L15	18	70	18	150	4
CF450S-4200	20	45	20	100	4
CF450S-4200L15	20	70	20	150	4

## HRC55 Carbide 4 Flute Square End Mills

	Helix Angle 35°	HRC 55	Coating TiSiN
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**Raw Material:** Use Domestic famous brand, high hardness, and good wear resistance.

**Coating:** TiSiN, Containing silica, very high surface hardness and high thermal resistance.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 4 Flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

**Cutting Parameters**

$V_c=150(120-180)m/min$

$A_p=1/3D(1/8-1/2D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

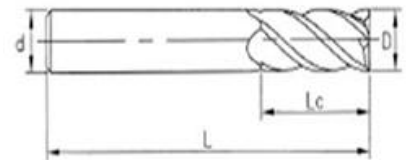
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

Suitable

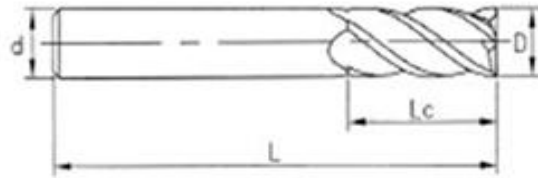
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550S-4030	3	8	3	50	4
CF550S-4030L	3	12	3	75	4
CF550S-4030L10	3	15	3	100	4
CF550S-4010	1	3	4	50	4
CF550S-4010L	1	3	4	75	4
CF550S-4010L10	1	3	4	100	4
CF550S-4015	1.5	4	4	50	4
CF550S-4015L	1.5	4	4	75	4
CF550S-4015L10	1.5	4	4	100	4
CF550S-4020	2	6	4	50	4
CF550S-4020L	2	6	4	75	4
CF550S-4020L10	2	6	4	100	4
CF550S-4025	2.5	8	4	50	4
CF550S-4030F	3	8	4	50	4
CF550S-4030FL	3	8	4	75	4
CF550S-4030FL10	3	8	4	100	4

# HRC55 Carbide 4 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550S-4035	3.5	10	4	50	4
CF550S-4040	4	10	4	50	4
CF550S-4040L	4	16	4	75	4
CF550S-4040L10	4	20	4	100	4
CF550S-4050	5	13	5	50	4
CF550S-4050L	5	20	5	75	4
CF550S-4050L10	5	25	5	100	4
CF550S-4010F	1	3	6	50	4
CF550S-4015F	1.5	4	6	50	4
CF550S-4020F	2	5	6	50	4
CF550S-4025F	2.5	7	6	50	4
CF550S-4030F6	3	8	6	50	4
CF550S-4035F	3.5	10	6	50	4
CF550S-4040F	4	10	6	50	4
CF550S-4045	4.5	12	6	50	4
CF550S-4050F	5	13	6	50	4
CF550S-4050FL	5	20	6	75	4
CF550S-4055	5.5	14	6	50	4
CF550S-4060	6	15	6	50	4
CF550S-4060L	6	20	6	75	4
CF550S-4060L10	6	30	6	100	4
CF550S-4060L15	6	40	6	150	4
CF550S-4070	7	18	8	60	4
CF550S-4080	8	20	8	60	4
CF550S-4080L	8	28	8	75	4
CF550S-4080L10	8	35	8	100	4
CF550S-4080L15	8	50	8	150	4
CF550S-4090	9	23	10	75	4
CF550S-4100	10	25	10	75	4
CF550S-4100L	10	40	10	100	4
CF550S-4100L15	10	50	10	150	4
CF550S-4110	11	28	12	75	4
CF550S-4120	12	30	12	75	4
CF550S-4120L10	12	45	12	100	4
CF550S-4120L15	12	60	12	150	4
CF550S-4130	13	40	14	100	4
CF550S-4140	14	35	14	80	4
CF550S-4140L10	14	45	14	100	4
CF550S-4140L15	14	60	14	150	4
CF550S-4150	15	40	16	100	4
CF550S-4160	16	45	16	100	4
CF550S-4160L15	16	60	16	150	4
CF550S-4180	18	45	18	100	4
CF550S-4180L15	18	70	18	150	4
CF550S-4200	20	45	20	100	4
CF550S-4200L15	20	70	20	150	4

## HRC60 Carbide 4 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 4 Flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

**Cutting Parameters**

Vc=150(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm(0.02-0.2)

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

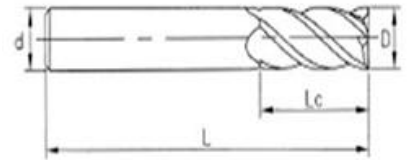
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

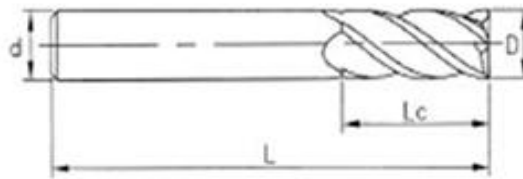
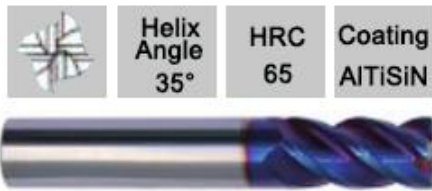
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600S-4030	3	8	3	50	4
CF600S-4030L	3	12	3	75	4
CF600S-4030L10	3	15	3	100	4
CF600S-4010	1	3	4	50	4
CF600S-4010L	1	3	4	75	4
CF600S-4010L10	1	3	4	100	4
CF600S-4015	1.5	4	4	50	4
CF600S-4015L	1.5	4	4	75	4
CF600S-4015L10	1.5	4	4	100	4
CF600S-4020	2	6	4	50	4
CF600S-4020L	2	6	4	75	4
CF600S-4020L10	2	6	4	100	4
CF600S-4025	2.5	8	4	50	4
CF600S-4030F	3	8	4	50	4
CF600S-4030FL	3	8	4	75	4
CF600S-4030FL10	3	8	4	100	4

# HRC60 Carbide 4 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600S-4035	3.5	10	4	50	4
CF600S-4040	4	10	4	50	4
CF600S-4040L	4	16	4	75	4
CF600S-4040L10	4	20	4	100	4
CF600S-4050	5	13	5	50	4
CF600S-4050L	5	20	5	75	4
CF600S-4050L10	5	25	5	100	4
CF600S-4010F	1	3	6	50	4
CF600S-4015F	1.5	4	6	50	4
CF600S-4020F	2	5	6	50	4
CF600S-4025F	2.5	7	6	50	4
CF600S-4030F6	3	8	6	50	4
CF600S-4035F	3.5	10	6	50	4
CF600S-4040F	4	10	6	50	4
CF600S-4045	4.5	12	6	50	4
CF600S-4050F	5	13	6	50	4
CF600S-4050FL	5	20	6	75	4
CF600S-4055	5.5	14	6	50	4
CF600S-4060	6	15	6	50	4
CF600S-4060L	6	20	6	75	4
CF600S-4060L10	6	30	6	100	4
CF600S-4060L15	6	40	6	150	4
CF600S-4070	7	18	8	60	4
CF600S-4080	8	20	8	60	4
CF600S-4080L	8	28	8	75	4
CF600S-4080L10	8	35	8	100	4
CF600S-4080L15	8	50	8	150	4
CF600S-4090	9	23	10	75	4
CF600S-4100	10	25	10	75	4
CF600S-4100L	10	40	10	100	4
CF600S-4100L15	10	50	10	150	4
CF600S-4110	11	28	12	75	4
CF600S-4120	12	30	12	75	4
CF600S-4120L10	12	45	12	100	4
CF600S-4120L15	12	60	12	150	4
CF600S-4130	13	40	14	100	4
CF600S-4140	14	35	14	80	4
CF600S-4140L10	14	45	14	100	4
CF600S-4140L15	14	60	14	150	4
CF600S-4150	15	40	16	100	4
CF600S-4160	16	45	16	100	4
CF600S-4160L15	16	60	16	150	4
CF600S-4180	18	45	18	100	4
CF600S-4180L15	18	70	18	150	4
CF600S-4200	20	45	20	100	4
CF600S-4200L15	20	70	20	150	4

## HRC65 Carbide 4 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 4 Flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

**Cutting Parameters**

Vc=130(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm(0.02-0.2)

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

Please adjust the Parameters according to the material and hardness of workpieces

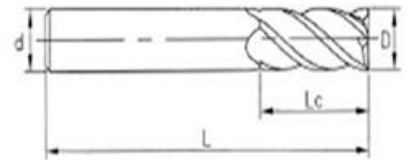
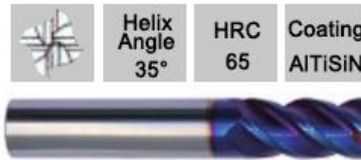
Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650S-4030	3	8	3	50	4
CF650S-4030L	3	12	3	75	4
CF650S-4030L10	3	15	3	100	4
CF650S-4010	1	3	4	50	4
CF650S-4010L	1	3	4	75	4
CF650S-4010L10	1	3	4	100	4
CF650S-4015	1.5	4	4	50	4
CF650S-4015L	1.5	4	4	75	4
CF650S-4015L10	1.5	4	4	100	4
CF650S-4020	2	6	4	50	4
CF650S-4020L	2	6	4	75	4
CF650S-4020L10	2	6	4	100	4
CF650S-4025	2.5	8	4	50	4
CF650S-4030F	3	8	4	50	4
CF650S-4030FL	3	8	4	75	4
CF650S-4030FL10	3	8	4	100	4

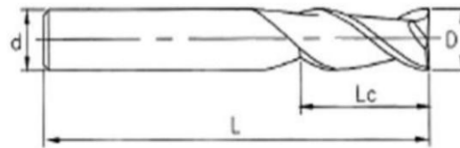
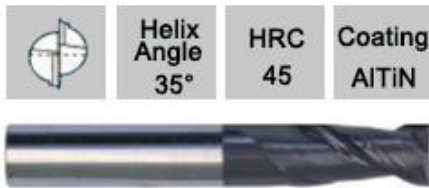


# HRC65 Carbide 4 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650S-4035	3.5	10	4	50	4
CF650S-4040	4	10	4	50	4
CF650S-4040L	4	16	4	75	4
CF650S-4040L10	4	20	4	100	4
CF650S-4050	5	13	5	50	4
CF650S-4050L	5	20	5	75	4
CF650S-4050L10	5	25	5	100	4
CF650S-4010F	1	3	6	50	4
CF650S-4015F	1.5	4	6	50	4
CF650S-4020F	2	5	6	50	4
CF650S-4025F	2.5	7	6	50	4
CF650S-4030F6	3	8	6	50	4
CF650S-4035F	3.5	10	6	50	4
CF650S-4040F	4	10	6	50	4
CF650S-4045	4.5	12	6	50	4
CF650S-4050F	5	13	6	50	4
CF650S-4050FL	5	20	6	75	4
CF650S-4055	5.5	14	6	50	4
CF650S-4060	6	15	6	50	4
CF650S-4060L	6	20	6	75	4
CF650S-4060L10	6	30	6	100	4
CF650S-4060L15	6	40	6	150	4
CF650S-4070	7	18	8	60	4
CF650S-4080	8	20	8	60	4
CF650S-4080L	8	28	8	75	4
CF650S-4080L10	8	35	8	100	4
CF650S-4080L15	8	50	8	150	4
CF650S-4090	9	23	10	75	4
CF650S-4100	10	25	10	75	4
CF650S-4100L	10	40	10	100	4
CF650S-4100L15	10	50	10	150	4
CF650S-4110	11	28	12	75	4
CF650S-4120	12	30	12	75	4
CF650S-4120L10	12	45	12	100	4
CF650S-4120L15	12	60	12	150	4
CF650S-4130	13	40	14	100	4
CF650S-4140	14	35	14	80	4
CF650S-4140L10	14	45	14	100	4
CF650S-4140L15	14	60	14	150	4
CF650S-4150	15	40	16	100	4
CF650S-4160	16	45	16	100	4
CF650S-4160L15	16	60	16	150	4
CF650S-4180	18	45	18	100	4
CF650S-4180L15	18	70	18	150	4
CF650S-4200	20	45	20	100	4
CF650S-4200L15	20	70	20	150	4

## HRC45 Carbide 2 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, good wear resistance and Corrosion resistance

**Coating:** AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 2 Flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole precessing.

**Cutting Parameters**

Vc=130(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm 0.02-0.2 ( )

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

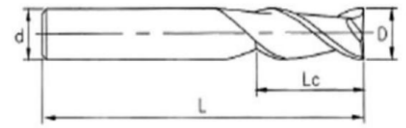
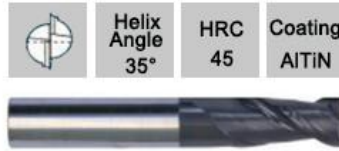
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Suitable

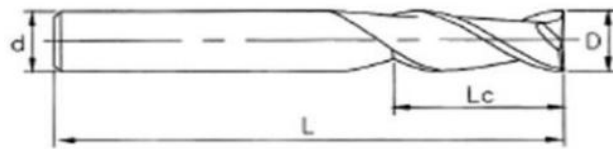
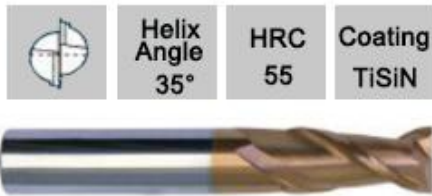
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450S-2030	3	8	3	50	2
CF450S-2030L	3	12	3	75	2
CF450S-2030L10	3	15	3	100	2
CF450S-2010	1	3	4	50	2
CF450S-2010L	1	3	4	75	2
CF450S-2010L10	1	3	4	100	2
CF450S-2015	1.5	4	4	50	2
CF450S-2015L	1.5	4	4	75	2
CF450S-2015L10	1.5	4	4	100	2
CF450S-2020	2	6	4	50	2
CF450S-2020L	2	6	4	75	2
CF450S-2020L10	2	6	4	100	2
CF450S-2025	2.5	8	4	50	2
CF450S-2030F	3	8	4	50	2
CF450S-2030FL	3	8	4	75	2
CF450S-2030FL10	3	8	4	100	2

# HRC45 Carbide 2 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450S-2035	3.5	10	4	50	2
CF450S-2040	4	10	4	50	2
CF450S-2040L	4	16	4	75	2
CF450S-2040L10	4	20	4	100	2
CF450S-2050	5	13	5	50	2
CF450S-2050L	5	20	5	75	2
CF450S-2050L10	5	25	5	100	2
CF450S-2010F	1	3	6	50	2
CF450S-2015F	1.5	4	6	50	2
CF450S-2020F	2	5	6	50	2
CF450S-2025F	2.5	7	6	50	2
CF450S-2030F6	3	8	6	50	2
CF450S-2035F	3.5	10	6	50	2
CF450S-2040F	4	10	6	50	2
CF450S-2045	4.5	12	6	50	2
CF450S-2050F	5	13	6	50	2
CF450S-2050FL	5	20	6	75	2
CF450S-2055	5.5	14	6	50	2
CF450S-2060	6	15	6	50	2
CF450S-2060L	6	20	6	75	2
CF450S-2060L10	6	30	6	100	2
CF450S-2060L15	6	40	6	150	2
CF450S-2070	7	18	8	60	2
CF450S-2080	8	20	8	60	2
CF450S-2080L	8	28	8	75	2
CF450S-2080L10	8	35	8	100	2
CF450S-2080L15	8	50	8	150	2
CF450S-2090	9	23	10	75	2
CF450S-2100	10	25	10	75	2
CF450S-2100L	10	40	10	100	2
CF450S-2100L15	10	50	10	150	2
CF450S-2110	11	28	12	75	2
CF450S-2120	12	30	12	75	2
CF450S-2120L10	12	45	12	100	2
CF450S-2120L15	12	60	12	150	2
CF450S-2130	13	40	14	100	2
CF450S-2140	14	35	14	80	2
CF450S-2140L10	14	45	14	100	2
CF450S-2140L15	14	60	14	150	2
CF450S-2150	15	40	16	100	2
CF450S-2160	16	45	16	100	2
CF450S-2160L15	16	60	16	150	2
CF450S-2180	18	45	18	100	2
CF450S-2180L15	18	70	18	150	2
CF450S-2200	20	45	20	100	2
CF450S-2200L15	20	70	20	150	2

## HRC55 Carbide 2 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good wear resistance.

**Coating:** TiSiN, Containing silica, very high surface hardness and high thermal resistance.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030  
6<D≤10 -0.015 ~ -0.040  
10<D≤20 -0.020 ~ -0.050

**Flutes:** 2 Flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole precessing.

**Cutting Parameters**

Vc=130(120-180)m/min  
Ap=1/3D(1/8-1/2D)  
Ae=1/2D(1/4-1D)  
fz=0.15mm(0.02-0.2)

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

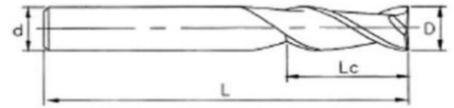
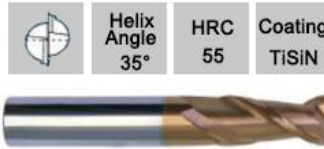
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

Suitable

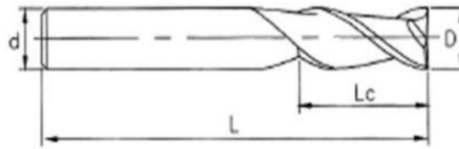
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550S-2030	3	8	3	50	2
CF550S-2030L	3	12	3	75	2
CF550S-2030L10	3	15	3	100	2
CF550S-2010	1	3	4	50	2
CF550S-2010L	1	3	4	75	2
CF550S-2010L10	1	3	4	100	2
CF550S-2015	1.5	4	4	50	2
CF550S-2015L	1.5	4	4	75	2
CF550S-2015L10	1.5	4	4	100	2
CF550S-2020	2	6	4	50	2
CF550S-2020L	2	6	4	75	2
CF550S-2020L10	2	6	4	100	2
CF550S-2025	2.5	8	4	50	2
CF550S-2030F	3	8	4	50	2
CF550S-2030FL	3	8	4	75	2
CF550S-2030FL10	3	8	4	100	2

# HRC55 Carbide 2 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550S-2035	3.5	10	4	50	2
CF550S-2040	4	10	4	50	2
CF550S-2040L	4	16	4	75	2
CF550S-2040L10	4	20	4	100	2
CF550S-2050	5	13	5	50	2
CF550S-2050L	5	20	5	75	2
CF550S-2050L10	5	25	5	100	2
CF550S-2010F	1	3	6	50	2
CF550S-2015F	1.5	4	6	50	2
CF550S-2020F	2	5	6	50	2
CF550S-2025F	2.5	7	6	50	2
CF550S-2030F6	3	8	6	50	2
CF550S-2035F	3.5	10	6	50	2
CF550S-2040F	4	10	6	50	2
CF550S-2045	4.5	12	6	50	2
CF550S-2050F	5	13	6	50	2
CF550S-2050FL	5	20	6	75	2
CF550S-2055	5.5	14	6	50	2
CF550S-2060	6	15	6	50	2
CF550S-2060L	6	20	6	75	2
CF550S-2060L10	6	30	6	100	2
CF550S-2060L15	6	40	6	150	2
CF550S-2070	7	18	8	60	2
CF550S-2080	8	20	8	60	2
CF550S-2080L	8	28	8	75	2
CF550S-2080L10	8	35	8	100	2
CF550S-2080L15	8	50	8	150	2
CF550S-2090	9	23	10	75	2
CF550S-2100	10	25	10	75	2
CF550S-2100L	10	40	10	100	2
CF550S-2100L15	10	50	10	150	2
CF550S-2110	11	28	12	75	2
CF550S-2120	12	30	12	75	2
CF550S-2120L10	12	45	12	100	2
CF550S-2120L15	12	60	12	150	2
CF550S-2130	13	40	14	100	2
CF550S-2140	14	35	14	80	2
CF550S-2140L10	14	45	14	100	2
CF550S-2140L15	14	60	14	150	2
CF550S-2150	15	40	16	100	2
CF550S-2160	16	45	16	100	2
CF550S-2160L15	16	60	16	150	2
CF550S-2180	18	45	18	100	2
CF550S-2180L15	18	70	18	150	2
CF550S-2200	20	45	20	100	2
CF550S-2200L15	20	70	20	150	2

## HRC60 Carbide 2 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Flutes:** 2 Flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole precessing.

### Cutting Parameters

Vc=150(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm(0.02-0.2)

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

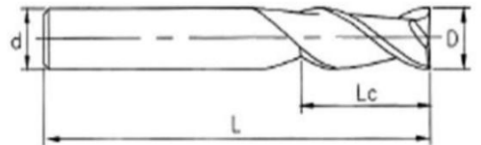
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

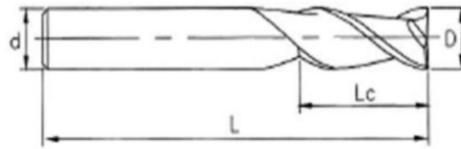
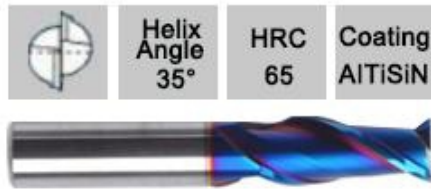
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600S-2030	3	8	3	50	2
CF600S-2030L	3	12	3	75	2
CF600S-2030L10	3	15	3	100	2
CF600S-2010	1	3	4	50	2
CF600S-2010L	1	3	4	75	2
CF600S-2010L10	1	3	4	100	2
CF600S-2015	1.5	4	4	50	2
CF600S-2015L	1.5	4	4	75	2
CF600S-2015L10	1.5	4	4	100	2
CF600S-2020	2	6	4	50	2
CF600S-2020L	2	6	4	75	2
CF600S-2020L10	2	6	4	100	2
CF600S-2025	2.5	8	4	50	2
CF600S-2030F	3	8	4	50	2
CF600S-2030FL	3	8	4	75	2
CF600S-2030FL10	3	8	4	100	2

# HRC60 Carbide 2 Flute Square End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600S-2035	3.5	10	4	50	2
CF600S-2040	4	10	4	50	2
CF600S-2040L	4	16	4	75	2
CF600S-2040L10	4	20	4	100	2
CF600S-2050	5	13	5	50	2
CF600S-2050L	5	20	5	75	2
CF600S-2050L10	5	25	5	100	2
CF600S-2010F	1	3	6	50	2
CF600S-2015F	1.5	4	6	50	2
CF600S-2020F	2	5	6	50	2
CF600S-2025F	2.5	7	6	50	2
CF600S-2030F6	3	8	6	50	2
CF600S-2035F	3.5	10	6	50	2
CF600S-2040F	4	10	6	50	2
CF600S-2045	4.5	12	6	50	2
CF600S-2050F	5	13	6	50	2
CF600S-2050FL	5	20	6	75	2
CF600S-2055	5.5	14	6	50	2
CF600S-2060	6	15	6	50	2
CF600S-2060L	6	20	6	75	2
CF600S-2060L10	6	30	6	100	2
CF600S-2060L15	6	40	6	150	2
CF600S-2070	7	18	8	60	2
CF600S-2080	8	20	8	60	2
CF600S-2080L	8	28	8	75	2
CF600S-2080L10	8	35	8	100	2
CF600S-2080L15	8	50	8	150	2
CF600S-2090	9	23	10	75	2
CF600S-2100	10	25	10	75	2
CF600S-2100L	10	40	10	100	2
CF600S-2100L15	10	50	10	150	2
CF600S-2110	11	28	12	75	2
CF600S-2120	12	30	12	75	2
CF600S-2120L10	12	45	12	100	2
CF600S-2120L15	12	60	12	150	2
CF600S-2130	13	40	14	100	2
CF600S-2140	14	35	14	80	2
CF600S-2140L10	14	45	14	100	2
CF600S-2140L15	14	60	14	150	2
CF600S-2150	15	40	16	100	2
CF600S-2160	16	45	16	100	2
CF600S-2160L15	16	60	16	150	2
CF600S-2180	18	45	18	100	2
CF600S-2180L15	18	70	18	150	2
CF600S-2200	20	45	20	100	2
CF600S-2200L15	20	70	20	150	2

## HRC65 Carbide 2 Flute Square End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 0.020 0.050

**Flutes:** 2 Flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole precessing.

### Cutting Parameters

$V_c=130(120-180)m/min$

$A_p=1/3D(1/8-1/2D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

**Helix Angle:** 35 degree, High adaptability to the material and harness of workpieces, widely used to mold and product processing and cost efficient.

Please adjust the Parameters according to the material and hardness of workpieces

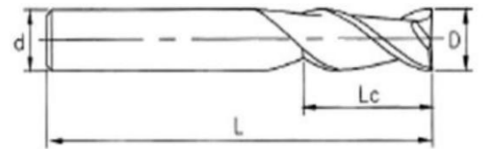
Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650S-2030	3	8	3	50	2
CF650S-2030L	3	12	3	75	2
CF650S-2030L10	3	15	3	100	2
CF650S-2010	1	3	4	50	2
CF650S-2010L	1	3	4	75	2
CF650S-2010L10	1	3	4	100	2
CF650S-2015	1.5	4	4	50	2
CF650S-2015L	1.5	4	4	75	2
CF650S-2015L10	1.5	4	4	100	2
CF650S-2020	2	6	4	50	2
CF650S-2020L	2	6	4	75	2
CF650S-2020L10	2	6	4	100	2
CF650S-2025	2.5	8	4	50	2
CF650S-2030F	3	8	4	50	2
CF650S-2030FL	3	8	4	75	2
CF650S-2030FL10	3	8	4	100	2

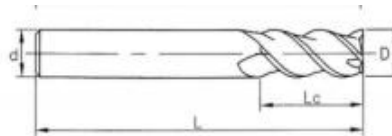


# HRC65 Carbide 2 Flute Square End Mill



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650S-2035	3.5	10	4	50	2
CF650S-2040	4	10	4	50	2
CF650S-2040L	4	16	4	75	2
CF650S-2040L10	4	20	4	100	2
CF650S-2050	5	13	5	50	2
CF650S-2050L	5	20	5	75	2
CF650S-2050L10	5	25	5	100	2
CF650S-2010F	1	3	6	50	2
CF650S-2015F	1.5	4	6	50	2
CF650S-2020F	2	5	6	50	2
CF650S-2025F	2.5	7	6	50	2
CF650S-2030F6	3	8	6	50	2
CF650S-2035F	3.5	10	6	50	2
CF650S-2040F	4	10	6	50	2
CF650S-2045	4.5	12	6	50	2
CF650S-2050F	5	13	6	50	2
CF650S-2050FL	5	20	6	75	2
CF650S-2055	5.5	14	6	50	2
CF650S-2060	6	15	6	50	2
CF650S-2060L	6	20	6	75	2
CF650S-2060L10	6	30	6	100	2
CF650S-2060L15	6	40	6	150	2
CF650S-2070	7	18	8	60	2
CF650S-2080	8	20	8	60	2
CF650S-2080L	8	28	8	75	2
CF650S-2080L10	8	35	8	100	2
CF650S-2080L15	8	50	8	150	2
CF650S-2090	9	23	10	75	2
CF650S-2100	10	25	10	75	2
CF650S-2100L	10	40	10	100	2
CF650S-2100L15	10	50	10	150	2
CF650S-2110	11	28	12	75	2
CF650S-2120	12	30	12	75	2
CF650S-2120L10	12	45	12	100	2
CF650S-2120L15	12	60	12	150	2
CF650S-2130	13	40	14	100	2
CF650S-2140	14	35	14	80	2
CF650S-2140L10	14	45	14	100	2
CF650S-2140L15	14	60	14	150	2
CF650S-2150	15	40	16	100	2
CF650S-2160	16	45	16	100	2
CF650S-2160L15	16	60	16	150	2
CF650S-2180	18	45	18	100	2
CF650S-2180L15	18	70	18	150	2
CF650S-2200	20	45	20	100	2
CF650S-2200L15	20	70	20	150	2

## HRC45 Carbide 3 Flute Square End Mills for Aluminum



**Raw Material:** Use Domestic famous brand,  
good wear resistance and Corrosion resistance

**Flutes:** 3 Flutes, effectively mitigate vibration and stable cutting

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**A Type:** Double-edge design provides good smooth finish and is suitable for semi-finish and finish machining.

### Cutting Parameters

$V_c=220(100-800)m/min$

$A_p=1/2D(1/8-3/4D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

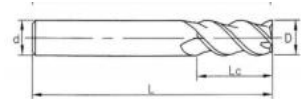
Please adjust the Parameters according to the material  
and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
			Y	Y		

Suitable

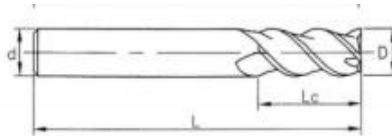
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450SL-3030	3	9	3	50	3
CF450SL-3030L	3	12	3	75	3
CF450SL-3030L10	3	15	3	100	3
CF450SL-3010	1	3	4	50	3
CF450SL-3015L	1.5	5	4	75	3
CF450SL-3020	2	6	4	50	3
CF450SL-3025	2.5	8	4	50	3
CF450SL-3030F	3	9	4	50	3
CF450SL-3035	3.5	12	4	50	3
CF450SL-3040	4	12	4	50	3
CF450SL-3040L	4	20	4	75	3
CF450SL-3040L10	4	25	4	100	3
CF450SL-3050	5	15	5	50	3
CF450SL-3050L	5	20	5	75	3
CF450SL-3050L10	5	25	5	100	3
CF450SL-3020F	2	6	6	50	3

## HRC45 Carbide 3 Flute Square End Mills for Aluminum



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450SL-3030F6	3	9	6	50	3
CF450SL-3040F	4	12	6	50	3
CF450SL-3050F	5	15	6	50	3
CF450SL-3060	6	18	6	50	3
CF450SL-3060L	6	30	6	75	3
CF450SL-3060L10	6	30	6	100	3
CF450SL-3060L15	6	40	6	150	3
CF450SL-3070	7	21	8	60	3
CF450SL-3080	8	24	8	60	3
CF450SL-3080L	8	35	8	75	3
CF450SL-3080L10	8	40	8	100	3
CF450SL-3080L15	8	50	8	150	3
CF450SL-3090	9	27	10	75	3
CF450SL-3100	10	30	10	75	3
CF450SL-3100L	10	40	10	100	3
CF450SL-3100L15	10	50	10	150	3
CF450SL-3110	11	33	12	75	3
CF450SL-3120	12	36	12	75	3
CF450SL-3120L	12	45	12	100	3
CF450SL-3120L15	12	60	12	150	3
CF450SL-3140	14	35	14	80	3
CF450SL-3140L	14	45	14	100	3
CF450SL-3140L15	14	65	14	150	3
CF450SL-3160	16	45	16	100	3
CF450SL-3160L	16	65	16	150	3
CF450SL-3180	18	45	18	100	3
CF450SL-3180L	18	70	18	150	3
CF450SL-3200	20	45	20	100	3
CF450SL-3200L	20	70	20	150	3

## HRC55 Carbide 3 Flute Square End Mills for Aluminum



**Raw Material:** Use Domestic famous brand, high hardness and good wear resistance.

**Flutes:** 3 Flutes, effectively mitigate vibration and stable cutting

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**A Type:** Double-edge design provides good smooth finish and is suitable for semi-finish and finish machining.

### Cutting Parameters

$V_c=220(100-800)m/min$

$A_p=1/2D(1/8-3/4D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

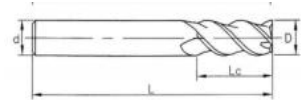
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
			Y	Y		

Suitable

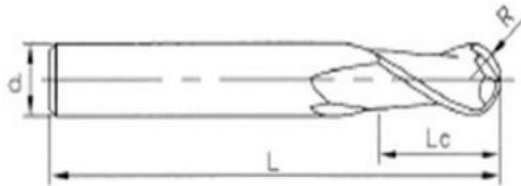
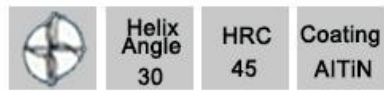
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550SL-3030	3	9	3	50	3
CF550SL-3030L	3	12	3	75	3
CF550SL-3030L10	3	15	3	100	3
CF550SL-3010	1	3	4	50	3
CF550SL-3015L	1.5	5	4	75	3
CF550SL-3020	2	6	4	50	3
CF550SL-3025	2.5	8	4	50	3
CF550SL-3030F	3	9	4	50	3
CF550SL-3035	3.5	12	4	50	3
CF550SL-3040	4	12	4	50	3
CF550SL-3040L	4	20	4	75	3
CF550SL-3040L10	4	25	4	100	3
CF550SL-3050	5	15	5	50	3
CF550SL-3050L	5	20	5	75	3
CF550SL-3050L10	5	25	5	100	3
CF550SL-3020F	2	6	6	50	3

## HRC55 Carbide 3 Flute Square End Mills for Aluminum



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550SL-3030F6	3	9	6	50	3
CF550SL-3040F	4	12	6	50	3
CF550SL-3050F	5	15	6	50	3
CF550SL-3060	6	18	6	50	3
CF550SL-3060L	6	30	6	75	3
CF550SL-3060L10	6	30	6	100	3
CF550SL-3060L15	6	40	6	150	3
CF550SL-3070	7	21	8	60	3
CF550SL-3080	8	24	8	60	3
CF550SL-3080L	8	35	8	75	3
CF550SL-3080L10	8	40	8	100	3
CF550SL-3080L15	8	50	8	150	3
CF550SL-3090	9	27	10	75	3
CF550SL-3100	10	30	10	75	3
CF550SL-3100L	10	40	10	100	3
CF550SL-3100L15	10	50	10	150	3
CF550SL-3110	11	33	12	75	3
CF550SL-3120	12	36	12	75	3
CF550SL-3120L	12	45	12	100	3
CF550SL-3120L15	12	60	12	150	3
CF550SL-3140	14	35	14	80	3
CF550SL-3140L	14	45	14	100	3
CF550SL-3140L15	14	65	14	150	3
CF550SL-3160	16	45	16	100	3
CF550SL-3160L	16	65	16	150	3
CF550SL-3180	18	45	18	100	3
CF550SL-3180L	18	70	18	150	3
CF550SL-3200	20	45	20	100	3
CF550SL-3200L	20	70	20	150	3

## HRC45 Carbide 2 Flute Ball Nose End Mills



**Raw Material:** Use Domestic famous brand, good wear resistance and Corrosion resistance

**Coating:** AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Cutting Parameters**

Vc=130(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm(0.02-0.2)

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot Benefits chip removal and increases, machining efficiency. 2flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, profile, and hole processing


Please adjust the Parameters according to the material and hardness of workpieces

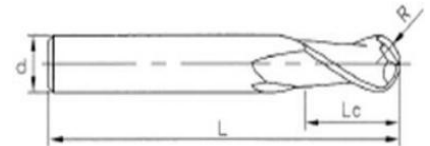
Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450N-2030	Φ3*R1.5	6	3	50	2
CF450N-2030L	Φ3*R1.5	6	3	75	2
CF450N-2030L10	Φ3*R1.5	6	3	100	2
CF450N-2010	Φ1*R0.5	2	4	50	2
CF450N-2015	Φ1.5*R0.75	3	4	50	2
CF450N-2020	Φ2*R1	4	4	50	2
CF450N-2020L	Φ2*R1	4	4	75	2
CF450N-2020L10	Φ2*R1	4	4	100	2
CF450N-2025	Φ2.5*R1.25	5	4	50	2
CF450N-2030F	Φ3*R1.5	6	4	50	2
CF450N-2030FL	Φ3*R1.5	6	4	75	2
CF450N-2030FL10	Φ3*R1.5	6	4	100	2
CF450N-2035	Φ3.5*R1.75	7	4	50	2
CF450N-2040	Φ4*R2	8	4	50	2
CF450N-2040L	Φ4*R2	8	4	75	2
CF450N-2040L10	Φ4*R2	8	4	100	2

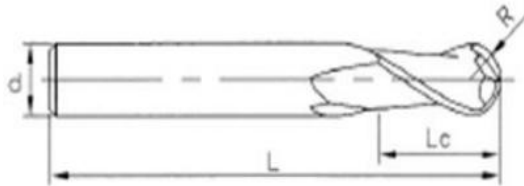
# HRC45 Carbide 2 Flute Ball Nose End Mills

	Helix Angle 30	HRC 45	Coating AlTiN
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Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450N-2050	Φ5*R2.5	10	5	50	2
CF450N-2050L	Φ5*R2.5	10	5	75	2
CF450N-2050L10	Φ5*R2.5	10	5	100	2
CF450N-2010F	Φ1*R0.5	2	6	50	2
CF450N-2020F	Φ2*R1	5	6	50	2
CF450N-2030F6	Φ3*R1.5	6	6	50	2
CF450N-2040F	Φ4*R2	8	6	50	2
CF450N-2050F	Φ5*R2.5	10	6	50	2
CF450N-2060	Φ6*R3	12	6	50	2
CF450N-2060L	Φ6*R3	12	6	75	2
CF450N-2060L10	Φ6*R3	12	6	100	2
CF450N-2060L15	Φ6*R3	12	6	150	2
CF450N-2070	Φ7*R3.5	14	8	60	2
CF450N-2080	Φ8*R4	16	8	60	2
CF450N-2080L	Φ8*R4	16	8	75	2
CF450N-2080L10	Φ8*R4	16	8	100	2
CF450N-2080L15	Φ8*R4	16	8	150	2
CF450N-2090	Φ9*R4.5	18	10	75	2
CF450N-2100	Φ10*R5	20	10	75	2
CF450N-2100L	Φ10*R5	20	10	100	2
CF450N-2100L15	Φ10*R5	20	10	150	2
CF450N-2110	Φ11*R5.5	22	12	75	2
CF450N-2120	Φ12*R6	24	12	75	2
CF450N-2120L	Φ12*R6	24	12	100	2
CF450N-2120L15	Φ12*R6	24	12	150	2
CF450N-2130	Φ13*R6.5	26	14	100	2
CF450N-2140	Φ14*R7	28	14	80	2
CF450N-2140L	Φ14*R7	28	14	100	2
CF450N-2140L15	Φ14*R7	28	14	150	2
CF450N-2150	Φ15*R7.5	30	16	100	2
CF450N-2160	Φ16*R8	32	16	100	2
CF450N-2160L	Φ16*R8	32	16	150	2
CF450N-2180	Φ18*R9	36	18	100	2
CF450N-2180L	Φ18*R9	36	18	150	2
CF450N-2200	Φ20*R10	36	20	100	2
CF450N-2200L	Φ20*R10	36	20	150	2

## HRC55 Carbide 2 Flute Ball Nose End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good wear resistance.

**Coating:** TiSiN, Containing silica, very high surface hardness and high thermal resistance.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Cutting Parameters**

Vc=130(120-180)m/min

Ap=1/3D(1/8-1/2D)

Ae=1/2D(1/4-1D)

fz=0.15mm(0.02-0.2)

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot Benefits chip removal and increases, machining efficiency. 2flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, profile, and hole processing

Please adjust the Parameters according to the material and hardness of workpieces

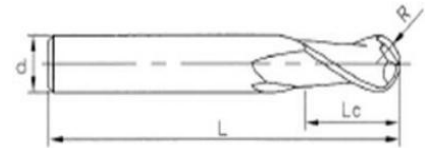
Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550N-2030	Φ3*R1.5	6	3	50	2
CF550N-2030L	Φ3*R1.5	6	3	75	2
CF550N-2030L10	Φ3*R1.5	6	3	100	2
CF550N-2010	Φ1*R0.5	2	4	50	2
CF550N-2015	Φ1.5*R0.75	3	4	50	2
CF550N-2020	Φ2*R1	4	4	50	2
CF550N-2020L	Φ2*R1	4	4	75	2
CF550N-2020L10	Φ2*R1	4	4	100	2
CF550N-2025	Φ2.5*R1.25	5	4	50	2
CF550N-2030F	Φ3*R1.5	6	4	50	2
CF550N-2030FL	Φ3*R1.5	6	4	75	2
CF550N-2030FL10	Φ3*R1.5	6	4	100	2
CF550N-2035	Φ3.5*R1.75	7	4	50	2
CF550N-2040	Φ4*R2	8	4	50	2
CF550N-2040L	Φ4*R2	8	4	75	2
CF550N-2040L10	Φ4*R2	8	4	100	2

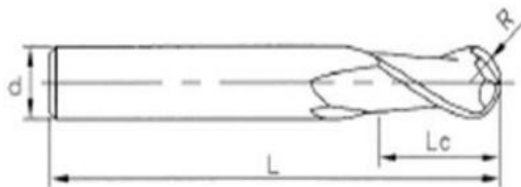
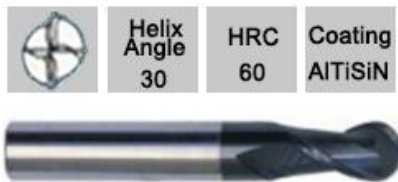


# HRC55 Carbide 2 Flute Ball Nose End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550N-2050	Φ5*R2.5	10	5	50	2
CF550N-2050L	Φ5*R2.5	10	5	75	2
CF550N-2050L10	Φ5*R2.5	10	5	100	2
CF550N-2010F	Φ1*R0.5	2	6	50	2
CF550N-2020F	Φ2*R1	5	6	50	2
CF550N-2030F6	Φ3*R1.5	6	6	50	2
CF550N-2040F	Φ4*R2	8	6	50	2
CF550N-2050F	Φ5*R2.5	10	6	50	2
CF550N-2060	Φ6*R3	12	6	50	2
CF550N-2060L	Φ6*R3	12	6	75	2
CF550N-2060L10	Φ6*R3	12	6	100	2
CF550N-2060L15	Φ6*R3	12	6	150	2
CF550N-2070	Φ7*R3.5	14	8	60	2
CF550N-2080	Φ8*R4	16	8	60	2
CF550N-2080L	Φ8*R4	16	8	75	2
CF550N-2080L10	Φ8*R4	16	8	100	2
CF550N-2080L15	Φ8*R4	16	8	150	2
CF550N-2090	Φ9*R4.5	18	10	75	2
CF550N-2100	Φ10*R5	20	10	75	2
CF550N-2100L	Φ10*R5	20	10	100	2
CF550N-2100L15	Φ10*R5	20	10	150	2
CF550N-2110	Φ11*R5.5	22	12	75	2
CF550N-2120	Φ12*R6	24	12	75	2
CF550N-2120L	Φ12*R6	24	12	100	2
CF550N-2120L15	Φ12*R6	24	12	150	2
CF550N-2130	Φ13*R6.5	26	14	100	2
CF550N-2140	Φ14*R7	28	14	80	2
CF550N-2140L	Φ14*R7	28	14	100	2
CF550N-2140L15	Φ14*R7	28	14	150	2
CF550N-2150	Φ15*R7.5	30	16	100	2
CF550N-2160	Φ16*R8	32	16	100	2
CF550N-2160L	Φ16*R8	32	16	150	2
CF550N-2180	Φ18*R9	36	18	100	2
CF550N-2180L	Φ18*R9	36	18	150	2
CF550N-2200	Φ20*R10	36	20	100	2
CF550N-2200L	Φ20*R10	36	20	150	2

## HRC60 Carbide 2 Flute Ball Nose End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Cutting Parameters**

$V_c=130(120-180)m/min$

$A_p=1/3D(1/8-1/2D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot Benefits chip removal and increases, machining efficiency. 2flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, profile, and hole processing

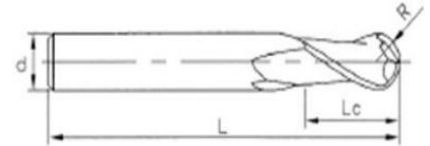
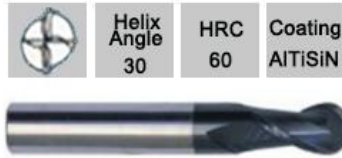
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

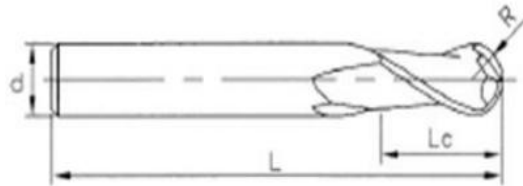
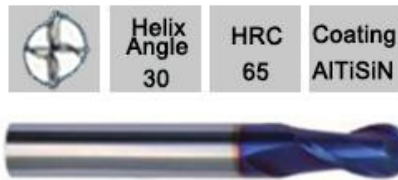
Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600N-2030	Φ3*R1.5	6	3	50	2
CF600N-2030L	Φ3*R1.5	6	3	75	2
CF600N-2030L10	Φ3*R1.5	6	3	100	2
CF600N-2010	Φ1*R0.5	2	4	50	2
CF600N-2015	Φ1.5*R0.75	3	4	50	2
CF600N-2020	Φ2*R1	4	4	50	2
CF600N-2020L	Φ2*R1	4	4	75	2
CF600N-2020L10	Φ2*R1	4	4	100	2
CF600N-2025	Φ2.5*R1.25	5	4	50	2
CF600N-2030F	Φ3*R1.5	6	4	50	2
CF600N-2030FL	Φ3*R1.5	6	4	75	2
CF600N-2030FL10	Φ3*R1.5	6	4	100	2
CF600N-2035	Φ3.5*R1.75	7	4	50	2
CF600N-2040	Φ4*R2	8	4	50	2
CF600N-2040L	Φ4*R2	8	4	75	2
CF600N-2040L10	Φ4*R2	8	4	100	2

# HRC60 Carbide 2 Flute Ball Nose End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF600N-2050	Φ5*R2.5	10	5	50	2
CF600N-2050L	Φ5*R2.5	10	5	75	2
CF600N-2050L10	Φ5*R2.5	10	5	100	2
CF600N-2010F	Φ1*R0.5	2	6	50	2
CF600N-2020F	Φ2*R1	5	6	50	2
CF600N-2030F6	Φ3*R1.5	6	6	50	2
CF600N-2040F	Φ4*R2	8	6	50	2
CF600N-2050F	Φ5*R2.5	10	6	50	2
CF600N-2060	Φ6*R3	12	6	50	2
CF600N-2060L	Φ6*R3	12	6	75	2
CF600N-2060L10	Φ6*R3	12	6	100	2
CF600N-2060L15	Φ6*R3	12	6	150	2
CF600N-2070	Φ7*R3.5	14	8	60	2
CF600N-2080	Φ8*R4	16	8	60	2
CF600N-2080L	Φ8*R4	16	8	75	2
CF600N-2080L10	Φ8*R4	16	8	100	2
CF600N-2080L15	Φ8*R4	16	8	150	2
CF600N-2090	Φ9*R4.5	18	10	75	2
CF600N-2100	Φ10*R5	20	10	75	2
CF600N-2100L	Φ10*R5	20	10	100	2
CF600N-2100L15	Φ10*R5	20	10	150	2
CF600N-2110	Φ11*R5.5	22	12	75	2
CF600N-2120	Φ12*R6	24	12	75	2
CF600N-2120L	Φ12*R6	24	12	100	2
CF600N-2120L15	Φ12*R6	24	12	150	2
CF600N-2130	Φ13*R6.5	26	14	100	2
CF600N-2140	Φ14*R7	28	14	80	2
CF600N-2140L	Φ14*R7	28	14	100	2
CF600N-2140L15	Φ14*R7	28	14	150	2
CF600N-2150	Φ15*R7.5	30	16	100	2
CF600N-2160	Φ16*R8	32	16	100	2
CF600N-2160L	Φ16*R8	32	16	150	2
CF600N-2180	Φ18*R9	36	18	100	2
CF600N-2180L	Φ18*R9	36	18	150	2
CF600N-2200	Φ20*R10	36	20	100	2
CF600N-2200L	Φ20*R10	36	20	150	2

## HRC60 Carbide 2 Flute Ball Nose End Mills



**Raw Material:** Use Domestic famous brand, high hardness and good toughness.

**Coating:** Use Nano-Tech, the hardness and thermal stability are up to 4000HV and 1200°C respectively.

Tolerance of End Mills Diameter

1<D≤6 -0.010 ~ -0.030

6<D≤10 -0.015 ~ -0.040

10<D≤20 -0.020 ~ -0.050

**Cutting Parameters**

$V_c=130(120-180)m/min$

$A_p=1/3D(1/8-1/2D)$

$A_e=1/2D(1/4-1D)$

$f_z=0.15mm(0.02-0.2)$

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot Benefits chip removal and increases, machining efficiency. 2flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, profile, and hole processing

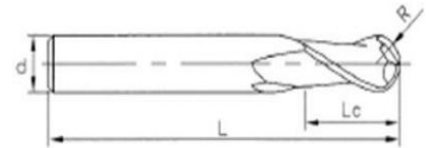
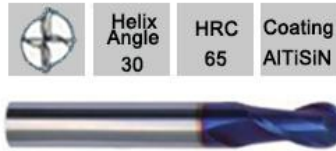
Please adjust the Parameters according to the material and hardness of workpieces

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650N-2030	Φ3*R1.5	6	3	50	2
CF650N-2030L	Φ3*R1.5	6	3	75	2
CF650N-2030L10	Φ3*R1.5	6	3	100	2
CF650N-2010	Φ1*R0.5	2	4	50	2
CF650N-2015	Φ1.5*R0.75	3	4	50	2
CF650N-2020	Φ2*R1	4	4	50	2
CF650N-2020L	Φ2*R1	4	4	75	2
CF650N-2020L10	Φ2*R1	4	4	100	2
CF650N-2025	Φ2.5*R1.25	5	4	50	2
CF650N-2030F	Φ3*R1.5	6	4	50	2
CF650N-2030FL	Φ3*R1.5	6	4	75	2
CF650N-2030FL10	Φ3*R1.5	6	4	100	2
CF650N-2035	Φ3.5*R1.75	7	4	50	2
CF650N-2040	Φ4*R2	8	4	50	2
CF650N-2040L	Φ4*R2	8	4	75	2
CF650N-2040L10	Φ4*R2	8	4	100	2

# HRC60 Carbide 2 Flute Ball Nose End Mills



Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF650N-2050	Φ5*R2.5	10	5	50	2
CF650N-2050L	Φ5*R2.5	10	5	75	2
CF650N-2050L10	Φ5*R2.5	10	5	100	2
CF650N-2010F	Φ1*R0.5	2	6	50	2
CF650N-2020F	Φ2*R1	5	6	50	2
CF650N-2030F6	Φ3*R1.5	6	6	50	2
CF650N-2040F	Φ4*R2	8	6	50	2
CF650N-2050F	Φ5*R2.5	10	6	50	2
CF650N-2060	Φ6*R3	12	6	50	2
CF650N-2060L	Φ6*R3	12	6	75	2
CF650N-2060L10	Φ6*R3	12	6	100	2
CF650N-2060L15	Φ6*R3	12	6	150	2
CF650N-2070	Φ7*R3.5	14	8	60	2
CF650N-2080	Φ8*R4	16	8	60	2
CF650N-2080L	Φ8*R4	16	8	75	2
CF650N-2080L10	Φ8*R4	16	8	100	2
CF650N-2080L15	Φ8*R4	16	8	150	2
CF650N-2090	Φ9*R4.5	18	10	75	2
CF650N-2100	Φ10*R5	20	10	75	2
CF650N-2100L	Φ10*R5	20	10	100	2
CF650N-2100L15	Φ10*R5	20	10	150	2
CF650N-2110	Φ11*R5.5	22	12	75	2
CF650N-2120	Φ12*R6	24	12	75	2
CF650N-2120L	Φ12*R6	24	12	100	2
CF650N-2120L15	Φ12*R6	24	12	150	2
CF650N-2130	Φ13*R6.5	26	14	100	2
CF650N-2140	Φ14*R7	28	14	80	2
CF650N-2140L	Φ14*R7	28	14	100	2
CF650N-2140L15	Φ14*R7	28	14	150	2
CF650N-2150	Φ15*R7.5	30	16	100	2
CF650N-2160	Φ16*R8	32	16	100	2
CF650N-2160L	Φ16*R8	32	16	150	2
CF650N-2180	Φ18*R9	36	18	100	2
CF650N-2180L	Φ18*R9	36	18	150	2
CF650N-2200	Φ20*R10	36	20	100	2
CF650N-2200L	Φ20*R10	36	20	150	2

## HRC45 Carbide 4 Flute Roughing End Mills



**Raw Material:** Use Domestic famous brand, good wear resistance and Corrosion resistance

**Coating:** AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance

**Remarks:** various coating are available according to your needs.

**Workpiece material:** Die casting steel, general steel, cast iron, mould steel, nickel alloy, aluminum alloy, copper alloy, #45 steel

**Product design:** Sharp wave and 35 helix angle design, improve the chip removal capacity, widely used in spot, profile, rough milling

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF450C-4040	4	10	4	50	4
CF450C-4060	6	15	6	50	4
CF450C-4080	8	20	8	60	4
CF450C-4100	10	25	10	75	4
CF450C-4100L	10	40	10	100	4
CF450C-4120	12	30	12	75	4
CF450C-4120L	12	45	12	100	4
CF450C-4140	14	45	14	100	4
CF450C-4160	16	45	16	100	4
CF450C-4180	18	45	18	100	4
CF450C-4200	20	45	20	100	4

## HRC55 Carbide 4 Flute Roughing End Mills

	Helix Angle 35°	HRC 55	Coating TiSiN
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**Raw Material:** Use Domestic famous brand, high hardness, and good wear resistance.

**Coating:** TiSiN, with very high surface hardness and good wear resistance

**Remarks:** various coating are available according to your needs.

**Workpiece material:** Die casting steel, general steel, cast iron, mould steel, nickel alloy, aluminum alloy, copper alloy, #45 steel, u8

**Product design:** Sharp wave and 35 helix angle design, improve the chip removal capacity, widely used in slot, profile, rough milling

Workpiece Material						
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

Suitable

Product NO.	Diameter (D)	Flute Length (Lc)	Shank Dia (d)	O.A.L (L)	Flutes
CF550C-4040	4	10	4	50	4
CF550C-4060	6	15	6	50	4
CF550C-4080	8	20	8	60	4
CF550C-4100	10	25	10	75	4
CF550C-4100L	10	40	10	100	4
CF550C-4120	12	30	12	75	4
CF550C-4120L	12	45	12	100	4
CF550C-4140	14	45	14	100	4
CF550C-4160	16	45	16	100	4
CF550C-4180	18	45	18	100	4
CF550C-4200	20	45	20	100	4