

ラフィング  
Roughing

# CX200 3枚刃 / 4枚刃 45° ラフィングエンドミル

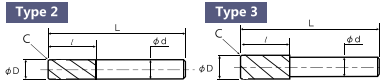
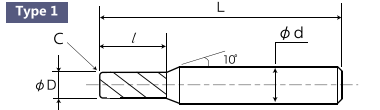
CX200 3・4-Flute 45° Roughing End Mill

## CX200-HRER



**CX200-HRER4100**

Model Flute D



### 特性 Features

- CX200 Coating have high oxidation resistance and hardening which exceed the existing coating and provides long tool life, and suitable for high speed processing and dry milling
- 45° Helix blade achieves high-feed operation.
- The fine pitch nick achieves high accurate surface roughness after processing

MG 超微粒

45°

CX200 Coat

外径公差 Tolerance  
+0.06  
-0.06

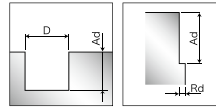
炭素鋼 Carbon Steel	合金鋼 Alloy Steel	調質鋼 Prehardened Steel	焼き入れ鋼 Hardened Steel				鋳鉄 Cast Iron	ステンレス鋼 Stainless Steels	アルミ合金 Aluminium Alloys	銅合金 Copper Alloys	チタン合金 耐熱合金 Ti/Ni Alloy	グラファイト Graphite	樹脂 Resin
◎	◎	◎	◎	○			○	○	○	○			

◎=Best ○=Good

MODEL 型番	D 外径	l 刃長	L 全長	d シャンク径	Flute	Type
CX200-HRER3030	3	15	60	6	3	1
CX200-HRER3040	4	15	60	6	3	1
CX200-HRER3050	5	15	60	6	3	1
CX200-HRER3060	6	15	60	6	3	2
CX200-HRER4080	8	20	75	8	4	2
CX200-HRER4090	9	20	75	10	4	1
CX200-HRER4100	10	25	75	10	4	2
CX200-HRER4110	11	25	75	12	4	1
CX200-HRER4120	12	30	100	12	4	2
CX200-HRER4130	13	30	100	12	4	3
CX200-HRER4140	14	35	100	12	4	3
CX200-HRER4160	16	40	110	16	4	2
CX200-HRER4180	18	45	110	16	4	3
CX200-HRER4200	20	45	130	20	4	2

# CX200-HRER

### 推奨切削条件 Standard Milling Condition



- The table show standard milling guidance of perforating process as written picture
- Use a rigid and precise machine and tool holder
- Select a cutting fluid appropriate to the particular usage
- In case the revolution could not be increased by the machine used, Please reduce feed speed and revolution speed at same ration
- When mounting End Mills, The run out of the till will have to be set within 0.01mm

### 溝切削 Slotting

被削材 Work Material	炭素鋼 Carbon Steel S45-S55C		合金鋼 工具鋼 Alloy Steel Tool Steel SKD,SCM		調質鋼 Prehardened Steel 35-40HRC,HPM,NAK			
	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution		
3	680	11500	420	8500	330	7100		
4	680	9500	420	7100	330	6000		
5	680	8100	430	6000	330	5000		
6	680	7500	430	5600	340	4700		
8	770	5600	480	4200	380	3500		
9	770	5000	480	3700	380	3100		
10	770	4500	480	3300	380	2800		
11	770	4100	490	3100	380	2500		
12	760	3700	490	2800	380	2300		
13	720	3500	430	2500	360	2200		
14	660	3200	420	2400	330	2000		
16	720	2800	370	2100	300	1800		
18	640	2500	310	1800	260	1600		
20	570	2200	300	1700	230	1400		
Ad			≤0.4D			≤0.3D		

### 側面切削 Side Milling

被削材 Work Material	炭素鋼 Carbon Steel S45-S55C		合金鋼 工具鋼 Alloy Steel Tool Steel SKD,SCM		調質鋼 Prehardened Steel 35-40HRC,HPM,NAK			
	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution	送り速度 (mm/min) Feed rate	回転数 (rpm) Revolution		
3	900	15900	660	10600	520	8900		
4	900	11900	660	8800	520	7500		
5	900	9500	660	7400	520	6300		
6	900	9300	660	6900	520	5800		
8	1200	7000	750	5200	600	4400		
9	1200	6200	750	4600	600	3900		
10	1200	5600	750	4100	600	3500		
11	1200	5100	750	3800	600	3200		
12	1200	4700	750	3400	600	2900		
13	1100	4300	690	3200	560	2700		
14	1030	4000	640	3000	520	2500		
16	900	3500	560	2600	460	2200		
18	800	3100	500	2300	390	1900		
20	720	2800	450	2100	370	1800		
Ad			≤1.5D			≤1.5D		
Rd			≤0.3D			≤0.2D		

ラフィング  
Roughing

スクエア  
Square

ラジアス  
Radius

ボール  
Ball

ロングネック  
Long Neck

ラフニング  
Roughing

チャムフィング  
Chamfering

ドリル  
Drill

スクエア  
Square

ラジアス  
Radius

ボール  
Ball

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ラフニング  
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