



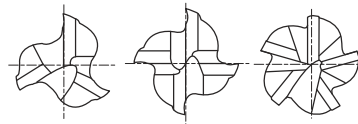
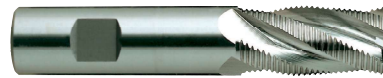
**COBALT & HSS
END MILLS**

E2085 SERIES

8% COBALT (M42)
FLAT SHANK

**HSSCo8, MULTI FLUTE REGULAR LENGTH FINE PITCH ROUGHING
CENTER CUTTING**

► This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is suitable for a very broad spectrum of materials having up to high tensile strengths. In many cases, the milled surfaces are of acceptable quality.



CBN
END MILL

i-Xmill
END MILL

X5070
END MILLS

4G MILLS
END MILLS

X-SPEED
ROUGHER
END MILLS

X-POWER
END MILLS

JET-POWER
END MILLS

V7 Mill STEEL
END MILLS

V7 Mill INOX
END MILLS

ALU-POWER
END MILLS

D-POWER
END MILLS

STANDARD
CARBIDE
END MILLS

TANK-POWER
END MILLS

STANDARD
COBALT
& HSS
END MILLS

TECHNICAL
DATA

P.885, 890, 894

Unit : Inch

EDP No. 8% COBALT (M42)	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
76297	1/4	3/8	5/8	2-7/16	3
76301	5/16	3/8	3/4	2-1/2	3
76305	3/8	3/8	3/4	2-1/2	4
76312	7/16	3/8	1	2-11/16	4
76321	1/2	1/2	1-1/4	3-1/4	4
76328	9/16	1/2	1-3/8	3-3/8	4
76337	5/8	5/8	1-5/8	3-3/4	4
76359	3/4	3/4	1-5/8	3-7/8	4
76391	7/8	3/4	1-7/8	4-1/8	5
76394	7/8	7/8	1-7/8	4-1/8	5
76422	1	3/4	2	4-1/4	5
76426	1	1	2	4-1/2	5

- The TiN coated, TiCN coated or TiAlN coated is available on your request.
- Coating Codes for Cobalt
Uncoated EDP NO. + CN(TiN), CC(TiCN), CF(TiAlN F), CE(TiAlN E), CH(Hardslick)
- Coated Price Shown in Price List. Call for Availability.

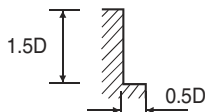
Mill Dia. Tolerance (inch)	
up to 1	0~+.0030
over 1	0~+.0060

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
◎	◎	○				○			○			

HSSCo8, MULTI FLUTE ROUGHING - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	HARDNESS	~HRc20		HRc20~HRc30		HRc30~HRc40				
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	1800	3.1	1600	2.4	1200	2.2	800	1.2	4500	7.9
5/16	1400	4.1	1100	3.0	900	2.6	560	1.4	3100	9.1
3/8	1100	6.0	900	4.7	800	4.3	450	2.4	2500	13.8
1/2	900	7.1	800	5.5	630	4.3	400	2.8	2000	15.8
5/8	700	7.1	560	5.5	450	4.3	280	2.8	1600	17.7
11/16	630	7.1	500	5.5	400	4.3	250	2.8	1400	18.5
7/8	500	8.7	450	6.7	350	5.5	220	3.4	1100	18.5
1	450	8.7	400	6.7	310	5.5	180	3.4	1000	17.7
1-1/8	400	8.1	350	6.3	280	5.1	160	3.4	900	20.1
1-1/4	350	8.1	280	6.3	220	5.1	140	3.4	800	19.7
1-3/8	310	8.1	250	6.3	200	5.1	120	3.4	700	18.5
1-3/4	280	7.9	220	6.0	180	4.7	110	3.1	630	17.7
2	220	7.9	180	6.7	160	5.5	90	3.1	500	14.6

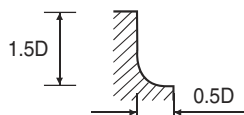


※ The Feed, in long & extra long types, should be reduced by around 50%.

 RPM = rev./min.
FEED = inch/min.

HSSCo8, MULTI FLUTE BALL NOSE ROUGHING - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	HARDNESS	~HRc20		HRc20~HRc30		HRc30~HRc40				
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R5/32 × 5/16	1400	4.1	1100	3.0	900	2.6	560	1.4	3100	9.1
R3/16 × 3/8	1100	6.0	900	4.7	800	4.3	450	2.4	2500	9.8
R1/4 × 1/2	900	7.1	800	5.5	630	4.3	400	2.8	2000	15.8
R5/16 × 5/8	700	7.1	560	5.5	450	4.3	280	2.8	1600	17.7
R7/16 × 7/8	560	7.1	450	5.5	400	4.3	220	2.8	1200	19.7
R1/2 × 1	450	8.7	400	6.7	310	5.5	180	3.4	1000	17.7
R5/8 × 1-1/4	350	8.1	280	6.3	220	5.1	140	3.4	800	19.7
R7/8 × 1-3/4	280	7.9	220	6.0	180	4.7	110	3.1	630	17.7



※ The Feed, in long & extra long types, should be reduced by around 50%.

 RPM = rev./min.
FEED = inch/min.

 CBN
END MILL

 i-Xmill
END MILL

 X5070
END MILLS

 4G MILLS
END MILLS

 X-SPEED
ROUGHER
END MILLS

 X-POWER
END MILLS

 JET-POWER
END MILLS

 V7 Mill STEEL
END MILLS

 V7 Mill INOX
END MILLS

 ALU-POWER
END MILLS

 D-POWER
END MILLS

 STANDARD
CARBIDE
END MILLS

 TANK-POWER
END MILLS

 STANDARD
COBALT
& HSS
END MILLS

 TECHNICAL
DATA

HSSCo8, MULTI FLUTE ROUGHING TiN-COATED - SIDE CUTTING

CBN END MILL

i-Xmill END MILL

X5070 END MILLS

4G MILLS END MILLS

X-SPEED ROUGHER END MILLS

X-POWER END MILLS

JET-POWER END MILLS

V7 Mill STEEL END MILLS

V7 Mill INOX END MILLS

ALU-POWER END MILLS

D-POWER END MILLS

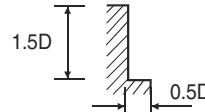
STANDARD CARBIDE END MILLS

TANK-POWER END MILLS

STANDARD COBALT & HSS END MILLS

TECHNICAL DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH			500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	2160	3.7	1920	2.9	1440	2.6	960	1.4	5400	9.5
5/16	1680	4.9	1320	3.6	1080	3.1	672	1.7	3720	10.9
3/8	1320	7.2	1080	5.6	960	5.2	540	2.9	3000	16.6
1/2	1080	8.5	960	6.6	756	5.2	480	3.4	2400	19.0
5/8	840	8.5	672	6.6	540	5.2	336	3.4	1920	22.2
11/16	756	8.5	600	6.6	480	5.2	300	3.4	1680	22.2
7/8	600	10.4	540	8.0	420	6.6	264	4.1	1320	21.2
1	540	10.4	480	8.0	372	6.6	216	4.1	1200	21.2
1-1/8	480	9.7	420	7.6	336	6.1	192	4.1	1680	24.1
1-1/4	420	9.7	336	7.6	264	6.1	168	4.1	960	23.6
1-3/8	372	9.7	300	7.6	240	6.1	144	4.1	840	22.2
1-3/4	336	9.5	264	7.2	216	5.6	132	3.7	756	21.2
2	264	9.5	216	8.0	192	6.6	108	3.7	600	17.5

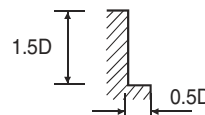


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.

HSSCo8, MULTI FLUTE ROUGHING & FINISHING TiN-COATED - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH			500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	2160	3.0	1920	2.4	1440	2.2	960	1.2	5400	7.6
5/16	1680	4.0	1320	2.9	1080	2.4	672	1.4	3720	8.8
3/8	1320	5.6	1080	4.4	960	4.2	540	2.4	3000	13.2
1/2	1080	6.8	960	5.2	756	4.2	480	2.6	2400	15.1
5/8	840	6.8	672	5.2	540	4.2	336	2.6	1920	17.6
11/16	756	6.8	600	5.2	480	4.2	300	2.6	1680	18.0
7/8	600	8.3	540	6.4	420	5.2	264	3.4	1320	18.0
1	540	8.3	480	6.4	372	5.2	216	3.4	1200	17.6
1-1/4	420	8.0	336	6.1	264	4.9	168	3.4	960	19.0
1-3/8	372	8.0	300	6.1	240	4.9	144	3.4	840	18.0
2	288	6.4	228	4.8	192	4.1	132	3.1	600	13.4



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RPM = rev./min.
FEED = inch/min.

HSSCo8, MULTI FLUTE ROUGHING TiCN-COATED - SIDE CUTTING

CBN END MILL

i-Xmill END MILL

X5070 END MILLS

4G MILLS END MILLS

X-SPEED ROUGHER END MILLS

X-POWER END MILLS

JET-POWER END MILLS

V7 Mill STEEL END MILLS

V7 Mill INOX END MILLS

ALU-POWER END MILLS

D-POWER END MILLS

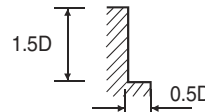
STANDARD CARBIDE END MILLS

TANK-POWER END MILLS

STANDARD COBALT & HSS END MILLS

TECHNICAL DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	2340	4.0	2080	3.1	1560	2.9	1040	1.6	5850	10.3
5/16	1820	5.3	1430	3.9	1170	3.4	728	1.8	4030	11.5
3/8	1430	7.8	1170	6.1	1040	5.6	585	3.1	3250	17.9
1/2	1170	9.2	1040	7.2	819	5.6	520	3.6	2600	20.5
5/8	910	9.2	728	7.2	585	5.6	364	3.6	2080	24.1
11/16	819	9.2	650	7.2	520	5.6	325	3.6	1820	24.1
7/8	650	11.3	585	8.7	455	7.2	286	4.4	1430	23.0
1	585	11.3	520	8.7	403	7.2	234	4.4	1300	23.0
1-1/8	520	10.5	455	8.2	364	6.6	208	4.4	1170	26.1
1-1/4	455	10.5	364	8.2	286	6.6	182	4.4	1040	25.6
1-3/8	403	10.5	325	8.2	260	6.6	156	4.4	910	24.1
1-3/4	364	10.3	286	7.8	234	6.1	143	4.0	819	23.0
2	286	10.3	234	8.7	208	7.2	117	4.0	650	19.0

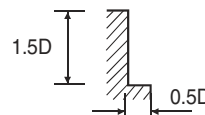


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.

HSSCo8, MULTI FLUTE ROUGHING & FINISHING TiCN-COATED - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	2340	3.3	2080	2.6	1560	2.3	1040	1.3	5850	8.2
5/16	1820	4.4	1430	3.1	1170	2.6	728	1.6	4030	9.5
3/8	1430	6.1	1170	4.8	1040	4.6	585	2.6	3250	14.3
1/2	1170	7.4	1040	5.6	819	4.6	520	2.9	2600	16.4
5/8	910	7.4	728	5.6	585	4.6	364	2.9	2080	18.5
11/16	819	7.4	650	5.6	520	4.6	325	2.9	1820	19.5
7/8	650	9.0	585	6.9	455	5.6	286	3.6	1430	19.5
1	585	9.0	520	6.9	403	5.6	234	3.6	1300	18.5
1-1/4	455	8.7	384	6.6	286	5.3	182	3.6	1040	20.5
1-3/4	403	8.7	325	6.6	260	5.3	156	3.6	910	19.5
2	312	7.0	247	5.2	238	4.4	143	3.9	650	14.6



※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.