



This fine pitch rougher is designed for milling harder metals and has updated geometry in the design of this tool for higher feed rates with no vibration or chatter and chipbreakers to eliminate birdnesting.

ROUGHERS TYPHOON COATED-INCH

Cutting Diameter (in.)	Shank Diameter (in.)	Flute Length (in.)	Overall Length (in.)	No. Flutes	Code No.	Price \$
1/4	1/4	3/4	2-1/2	3	104-800	38.10
5/16	5/16	3/4	2-1/2	3	104-802	53.20
3/8	3/8	7/8	2-1/2	3	104-804	62.90
1/2	1/2	1	3	4	104-806	100.30
5/8	5/8	1-1/4	3-1/2	4	104-810	182.80
3/4	3/4	1-5/8	4	4	104-812	258.50
1	1	1-3/4	4	5	104-814	340.40

Roughing Side Cutting

Hardness		Up to 30 HRC	30 to 38 HRC	38 to 45 HRC	45 to 55 HRC	55 to 65 HRC					
Work Material		Non-Alloyed Steels Alloy Steels Cast Iron	Alloys Steels Heat Resistant Steels	Alloys Steels Heat Resistant Steels	Hardened Steels	Hardened Steels					
Depth of Cut		 $Ad = 1.5D$ $Rd = 0.3D$			 $Ad = 1.0D$ $Rd = 0.05D$						
		1000 SFM	800 SFM	550 SFM	225 SFM	160 SFM					
Dia. (in)	Strength (mm)	Up to 1000N/mm ²		1000 to 1200N/mm ²		1200 to 1400N/mm ²		1400 to 2000N/mm ²		2000N/mm ²	
		Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1/4	6	15,600	91.35	12,400	33.10	8,400	22.45	3,400	10.25	2,400	7.50
5/16	8	11,600	91.35	9,200	33.10	6,300	22.45	2,400	9.50	1,800	7.10
3/8	10	9,200	91.35	7,600	33.10	5,100	22.45	2,000	11.40	1,300	7.50
1/2	12	8,000	94.50	6,000	31.50	4,200	22.45	1,680	10.25	1,200	7.50
5/8	16	6,000	94.50	4,800	29.90	3,300	20.05	1,200	6.30	800	4.35
3/4	20	5,200	91.35	4,400	28.35	2,700	16.55	1,100	5.90	700	3.95
1	25	4,800	85.05	3,600	22.05	2,400	14.15	1,000	5.90	660	3.95

tolerances

Size	Diameter	Shank Diameter
3/32 thru 1"	+ .000"-.002"	+ .0000"-.0005"

Steel

Stainless Steel

Cast Iron/Hardened

Aluminum