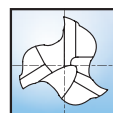


This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is recommended for cutting steel grades and many non-ferrous materials.

- Multiple helical flutes
- Centre cutting
- Coarse pitch
- Single end with weldon shank
- Round profile

REGULAR LENGTH CENTRE CUTTING ROUGHER							TiAIN Coated	
Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Flutes	Code No.	Price \$	Code No.	Price \$
1/2	1/2	1-1/4	3-1/4	4	103-100	37.70	103-585	38.10
5/8	5/8	1-5/8	3-3/4	4	103-101	46.00	103-591	71.90
3/4	3/4	1-5/8	3-7/8	4	103-102	57.20	103-587	66.20
1	1	2	4-1/2	5	103-103	82.70	103-593	101.60
1-1/4	1-1/4	2	4-1/2	6	103-104	118.30	103-589	124.10
1-1/2	1-1/4	2	4-1/2	6	103-105	158.50	103-595	222.00

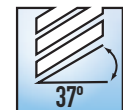
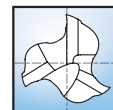


General purpose rougher is designed for high production metal removal in a wide range of work piece material.

Suitable for a very broad spectrum of materials having high tensile strengths. Mills surfaces are of exceptional quality.

- 3 helical flutes
- Centre cutting
- Coarse pitch
- Round profile

STUB LENGTH CENTRE CUTTING ROUGHER							TiAIN Coated	
Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Flutes	Code No.	Price \$	Code No.	Price \$
1/4	3/8	1/4	2-1/16	3	104-340	30.70	104-360	43.40
3/8	3/8	3/8	2-5/32	3	104-342	30.70	104-362	41.00
1/2	1/2	1/2	2-1/2	3	104-344	41.20	104-364	59.40
5/8	5/8	5/8	2-3/4	3	104-346	50.10	104-366	66.00
3/4	3/4	3/4	2-7/8	3	104-348	62.30	104-368	91.40
1	1	1	3-1/2	3	104-350	90.10	104-370	144.60



REG. LENGTH HSCO ROUGHING END MILLS FOR ALUMINUM							
Cutting Diameter	Shank Diameter	Flute Length	Overall Length	No. Flutes	Code No.	Price \$	
1/4	3/8	5/8	2-7/16	3	104-052	34.90	
5/16	3/8	3/4	2-1/2	3	104-054	35.70	
3/8	3/8	3/4	2-1/2	3	104-056	34.90	
1/2	1/2	1-1/4	3-1/4	3	104-058	49.20	
5/8	5/8	1-5/8	3-3/4	3	104-060	58.50	
3/4	3/4	1-5/8	3-3/4	3	104-062	71.10	
1	1	2	4-1/2	3	104-066	105.30	
1-1/4	1-1/4	2	4-1/2	3	104-068	169.20	
1-1/2	1-1/4	2	4-1/2	3	104-070	200.90	