



**Diameters:**  
0.250" - 1.00"

**Cutting Edge Length:**  
0.350" - 1.500"

**Overall Length:**  
2.50" - 7.20"

**Number of Flutes:**  
3

**Corner Configurations:**  
0.020" - 0.120"

**Helix Angle:**  
39° - 41°

**Grade:**  
IN05S



## Series 46D...RQ 3 Flute Different Helix and Variable pitch End Mill for Machining Aluminum

Ingersoll's new Series 46D...RQ which features Solid carbide End Mills with different helix and variable pitch for machining aluminum, is designed for both roughing and finishing operations. Maximized stock removal rates and reduced cycle times in most milling operations. The unique geometry provides excellent surface finish and long tool life while machining at high material removal rates.

### Features and Benefits

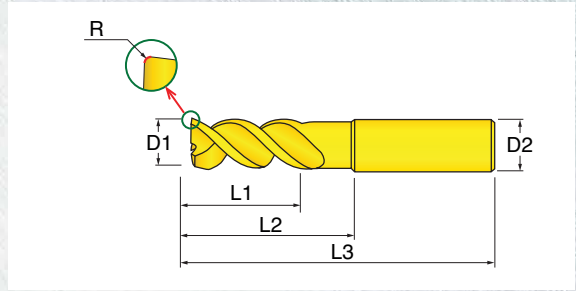
- Excellent chatter dampening due to their different helix and variable pitch
- 3 flute with a 39-41 variable helix
- Excellent solution for low power machines with CAT40 and BT40 adaptations, improving their material removal rates and minimizing vibration
- The unique ground and polished geometry provides excellent bottom and side surface finish with no mismatch
- Cutting depths up to 1.5 x D





# STEDI<sup>®</sup>ROUNDS™ SERIES 46D\_RQ (3 FLUTE)

SOLID CARBIDE ENDMILLS WITH DIFFERENT HELIX 3 AND 5XD NECK RELIEF FOR MACHINING ALUMINUM



Grade	P	M	K	N <sub>(K)</sub>	S <sub>(M)</sub>	H <sub>(PK)</sub>
IN05S				+		

	h6
	h6



+ Preferred choice 0 Second choice

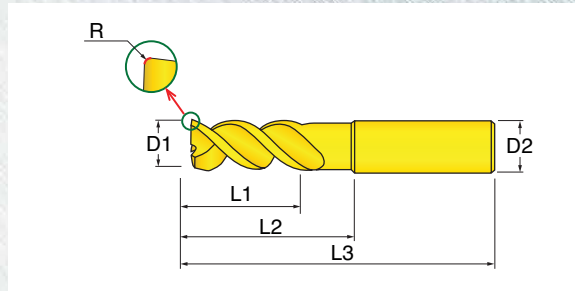
Cutter Number	D1 Diameter	Z Flutes	R Radius	L2 Height	L3 Overall Length	L1 Cut Length	D2 Shank Size/Style
46D-2535R6RQ020	0.250	3	0.02	0.750	2.50	0.35	.250" C
46D-2535R6RQ02	0.250	3	0.02	1.250	2.50	0.35	.250" C
46D-2535R6RQ030	0.250	3	0.03	0.750	2.50	0.35	.250" C
46D-2535R6RQ03	0.250	3	0.03	1.250	2.50	0.35	.250" C
46D-3150R7RQ02	0.312	3	0.02	0.900	2.50	0.50	.312" C
46D-3150R7RQ020	0.312	3	0.02	1.560	2.50	0.50	.312" C
46D-3150R7RQ03	0.312	3	0.03	0.900	2.50	0.50	.312" C
46D-3150R7RQ030	0.312	3	0.03	1.560	2.50	0.50	.312" C
46D-3760R8RQ02	0.375	3	0.02	1.125	2.50	0.60	.375" C
46D-3760R8RQ020	0.375	3	0.02	1.875	3.00	0.60	.375" C
46D-3760R8RQ03	0.375	3	0.03	1.125	2.50	0.60	.375" C
46D-3760R8RQ030	0.375	3	0.03	1.875	3.00	0.60	.375" C
46D-3760R8RQ06	0.375	3	0.06	1.125	2.50	0.60	.375" C
46D-3760R8RQ060	0.375	3	0.06	1.875	3.00	0.60	.375" C
46D-5075S4RQ02	0.500	3	0.02	1.500	3.00	0.75	.500" C
46D-5075S4RQ020	0.500	3	0.02	2.500	4.50	0.75	.500" C
46D-5075S4RQ03	0.500	3	0.03	1.500	3.00	0.75	.500" C
46D-5075S4RQ030	0.500	3	0.03	2.500	4.50	0.75	.500" C
46D-5075S4RQ06	0.500	3	0.06	1.500	3.00	0.75	.500" C
46D-5075S4RQ060	0.500	3	0.06	2.500	4.50	0.75	.500" C
46D-6210S6RQ02	0.625	3	0.02	1.870	3.50	1.00	.625" C
46D-6210S6RQ020	0.625	3	0.02	3.125	5.00	1.00	.625" C
46D-6210S6RQ03	0.625	3	0.03	1.870	3.50	1.00	.625" C
46D-6210S6RQ030	0.625	3	0.03	3.125	5.00	1.00	.625" C
46D-6210S6RQ06	0.625	3	0.06	1.870	3.50	1.00	.625" C
46D-6210S6RQ060	0.625	3	0.06	3.125	5.00	1.00	.625" C
46D-6210S6RQ09	0.625	3	0.09	1.870	3.50	1.00	.625" C
46D-6210S6RQ090	0.625	3	0.09	3.125	5.00	1.00	.625" C

Continue on next page.



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SOLID CARBIDE ENDMILLS WITH DIFFERENT HELIX 3 AND 5XD NECK RELIEF FOR MACHINING ALUMINUM



Grade	P	M	K	N <sub>(K)</sub>	S <sub>(M)</sub>	H <sub>(PK)</sub>
IN05S				+		

	h6
	h6



+ Preferred choice 0 Second choice

Cutter Number	D1 Diameter	Z Flutes	R Radius	L2 Height	L3 Overall Length	L1 Cut Length	D2 Shank Size/Style
46D-7512S7RQ02	0.750	3	0.02	2.250	5.00	1.20	.750" C
46D-7512S7RQ020	0.750	3	0.02	3.750	6.00	1.20	.750" C
46D-7512S7RQ03	0.750	3	0.03	2.250	5.00	1.20	.750" C
46D-7512S7RQ030	0.750	3	0.03	3.750	6.00	1.20	.750" C
46D-7512S7RQ06	0.750	3	0.06	2.250	5.00	1.20	.750" C
46D-7512S7RQ060	0.750	3	0.06	3.750	6.00	1.20	.750" C
46D-7512S7RQ09	0.750	3	0.09	2.250	5.00	1.20	.750" C
46D-7512S7RQ090	0.750	3	0.09	3.750	6.00	1.20	.750" C
46D-1015S1RQ02	1.000	3	0.02	3.000	5.00	1.50	1.000" C
46D-1015S1RQ020	1.000	3	0.02	5.000	7.20	1.50	1.000" C
46D-1015S1RQ03	1.000	3	0.03	3.000	5.00	1.50	1.000" C
46D-1015S1RQ030	1.000	3	0.03	5.000	7.20	1.50	1.000" C
46D-1015S1RQ06	1.000	3	0.06	3.000	5.00	1.50	1.000" C
46D-1015S1RQ060	1.000	3	0.06	5.000	7.20	1.50	1.000" C
46D-1015S1RQ09	1.000	3	0.09	3.000	5.00	1.50	1.000" C
46D-1015S1RQ090	1.000	3	0.09	5.000	7.20	1.50	1.000" C
46D-1015S1RQ12	1.000	3	0.12	3.000	5.00	1.50	1.000" C
46D-1015S1RQ120	1.000	3	0.12	5.000	7.20	1.50	1.000" C

## STEDI<sup>®</sup>ROUNDS™ OPERATING GUIDELINES Series 46D

Workpiece Material	Cutting speed vc in/min		Feed rate per tooth fz ft/min		Cutting depth ap recomm. for	Cutting Width	
	End mill		End mill				
	DC in	Full slot	Shoulder	Full slot	Shoulder	End mill in	Recommended ae %
Aluminum <b>N</b>	.125-.250	825-2500	825-2500	.0007 - .0015	.0010 - .0030	.040 x D	30%
	.312-.500	2500-3500	3000-5000	.0035 - .0040	.0040 - .0070	.040 x D	30%
	.625-1.00	2500-3500	5000-6500	.0060 - .0070	.0070 - .0090	.040 x D	30%

### General Information:

Machining of aluminum and duroplastics with grade IN05S, any other materials with IN2005 / IN2006. Max. cutting depth of end mills is determined by cutting length a = xxx in; for ball nose cutters max. cutting depth is determined by radius.  
Please consider the limitation of max. RPM of the machine! Cutting values refer to n<sub>max</sub> = 40000 min<sup>-1</sup>