



Diameters:
10mm to 20mm

Cutting Edge Length:
15mm to 42mm

Overall Length:
92mm to 130mm

Number of Flutes:
3

Radius:
0.20mm

Helix Angle:
39° - 41°

Grade:
IN05S



CHATTERFREE AND CHIP SPLITTING SOLID CARBIDE ENDMILLS WITH CENTRAL COOLANT HOLE FOR MACHINING ALUMINUM

Ingersoll is further expanding the line of 3 flute, solid carbide endmills with different helix and variable pitch for machining aluminum, by adding endmills with chip splitting flutes and a central coolant hole.

The new 46DRQ chip splitting solid carbide endmills feature CHATTERFREE different helix, variable pitch and central coolant holes. This winning combination enables breaking aluminum into short chips and flushes them away, an excellent solution for maximum stock removal rates in roughing and semi-finishing of deep cavities.

The new tools are available in 10, 12, 16 and 20 mm diameters with 1.5 and 2xD cutting edge lengths for each diameter and 4 and 5 times D neck relief.

The new tools were designed for both roughing and semi finishing operations, featuring excellent chatter dampening ability and efficient chip evacuation from grooves and cavities. They can be used with internal coolant at very high cutting speeds for full slot shoulder machining. The tools can ramp into the material at a 5° angle.

Ingersoll's CHATTERFREE and chip splitting endmills for machining aluminum are an excellent solution for low power machines with ISO40 or BT40 adaptations, improving their material removal rate and eliminating vibration. They maximize stock removal rate and reduce cycle time in most milling operations.

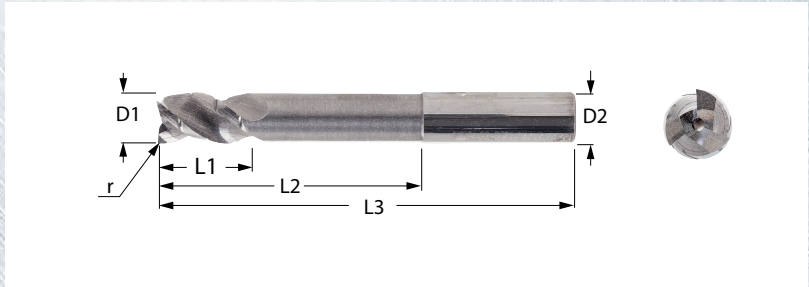
Extended tool life can be expected when machining at high material removal rates.

The new tools will further increase our ability to meet most of the applications required by aluminum part manufacturers who use solid carbide tools.

**NEW
PRODUCT
ANNOUNCEMENT
•2014•**

46DRQ SERIES

3 FLUTE, CHATTERFREE AND CHIP SPLITTING SOLID CARBIDE ENDMILLS WITH CENTRAL COOLANT HOLE FOR MACHINING ALUMINUM



Designation	Dimension					Shank	# of Flutes	Corner	Ha°	Grade
	D1	D2	L1	L2	L3					
46D01015T1RQ20	10mm	10mm	15mm	50mm	92mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D01022T1RQ20	10mm	10mm	22mm	40mm	80mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D01218T2RQ20	12mm	12mm	18mm	60mm	100mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D01226T2RQ20	12mm	12mm	26mm	48mm	93mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D01624T3RQ20	16mm	16mm	24mm	80mm	128mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D01634T3RQ20	16mm	16mm	34mm	64mm	115mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D02030T4RQ20	20mm	20mm	30mm	100mm	150mm	Cylindrical	3	0.20mm	39-41°	IN05S
46D02042T4RQ200	20mm	20mm	42mm	80mm	130mm	Cylindrical	3	0.20mm	39-41°	IN05S

OPERATING GUIDELINES

Workpiece Material	Cutting speed vc in m/min		Feed rate per tooth fz in mm		Cutting Depth ap recomm. for End mill mm	Cutting Width ae % Recommended	
	End mill		End mill				
DC mm	Full slot	Shoulder	Full slot	Shoulder			
Aluminum N	2 - 6	250 - 800	250 - 800	0,02 - 0,04	0,03 - 0,08	0,3 x D	30%
	8 - 12	800 - 1000	1000 - 1500	0,09 - 0,12	0,1 - 0,18	0,3 x D	30%
	16 - 25	800 - 1000	1500 - 2000	0,15 - 0,18	0,18 - 0,25	0,3 x D	30%