TEKROUNDS™

Diameters:
4mm to 20mm
0.375" to 0.750"

Overall Length:
57mm to 104mm
3.00" to 4.00"

No. of Flutes:
4

Helix Angle:
35° - 37°

Radius Range:
0.20mm to 1.0mm
0.020" to 0.250"

Grades:
IN2005, IN1005

UPDATED
PRODUCT
ANNOUNCEMENT
2015

New 47D_RX/47DRX Series Different Helix, Chamfered Cutting Edge Endmills for Machining Titanium with High Removal Rates

New evolution of the CHATTERFREE solid carbide endmills for machining titanium with high removal rates.

Ingersoll is introducing a new 4 flute differential helix and variable pitch 47D_RX/47DRX endmill family.

Features

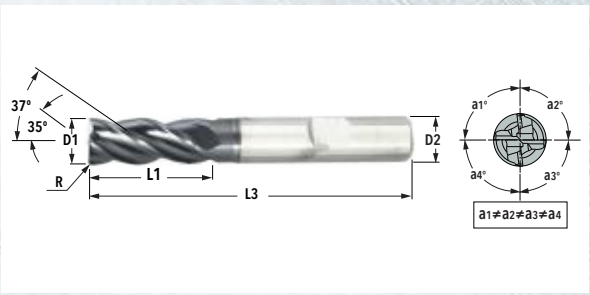
- *Unique geometry*
- *Best chatter free tools for high removal rates when machining titanium (up to 2xD full slotting)*
- *4 flute endmills with differential helix and variable pitch*
- *Large variety of corner radii*

The new tools are available in the diameter range of 4 to 20 mm as well as 0.375" to 0.750" and are made from PVD coated grades IN2005 and IN1005, providing long tool life when machining titanium.

Member IMC Group
Ingersoll Cutting Tools

TEKROUNDS™ SERIES 47D_RX (INCH)

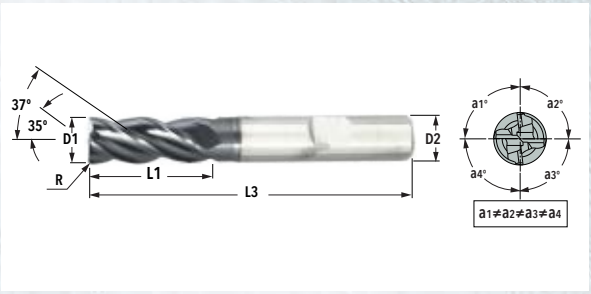
4-FLUTE ENDMILLS, DIFFERENT HELIX, CHAMFERED CUTTING EDGES, VARIABLE PITCH FOR CHATTER DAMPENING



Designation	Helix (Deg)	D1 Diameter	Z Flutes	R Radius	L3 Overall Length	L1 Cut Length	D2 Shank Size/Style
47D-3775R8RX02 IN2005	35-37	0.375	4	0.020	3.00	0.75	.375" Cyl
47D-377577RX02 IN2005	35-37	0.375	4	0.020	3.00	0.75	.375" W
47D-3775R8RX09 IN1005	35-37	0.375	4	0.090	3.00	0.75	.375" Cyl
47D-5010S4RX02 IN2005	35-37	0.500	4	0.023	3.00	1.00	.500" Cyl
47D-501078RX02 IN2005	35-37	0.500	4	0.023	3.00	1.00	.500" W
47D-5010S4RX12 IN1005	35-37	0.500	4	0.120	3.00	1.00	.500" Cyl
47D-6212S6RX02 IN2005	35-37	0.625	4	0.025	3.00	1.25	.625" Cyl
47D-621279RX02 IN2005	35-37	0.625	4	0.025	3.00	1.25	.625" W
47D-6212S6RX12 IN1005	35-37	0.625	4	0.120	3.00	1.25	.625" Cyl
47D-6212S6RX25 IN1005	35-37	0.625	4	0.250	3.00	1.25	.625" Cyl
47D-7515S7RX04 IN2005	35-37	0.750	4	0.040	4.00	1.50	.750" Cyl
47D-751584RX04 IN2005	35-37	0.750	4	0.040	4.00	1.50	.750" W
47D-7515S7RX06 IN1005	35-37	0.750	4	0.060	4.00	1.50	.750" Cyl
47D-7515S7RX12 IN1005	35-37	0.750	4	0.120	4.00	1.50	.750" Cyl
47D-7515S7RX25 IN1005	35-37	0.750	4	0.250	4.00	1.50	.750" Cyl

TEKROUNDS™ SERIES 47D_RX (METRIC)

4-FLUTE ENDMILLS, DIFFERENT HELIX, CHAMFERED CUTTING EDGES, VARIABLE PITCH FOR CHATTER DAMPENING, IN2005



Designation	Helix (Deg)	D1 Diameter	Z Flutes	R Radius	L3 Overall Length	L1 Cut Length	D2 Shank Size/Style
47D00408T7RX570	35-37	4.000	4	0.200	57.00	8.00	6mm Cyl
47D00510T7RX570	35-37	5.000	4	0.200	57.00	10.00	6mm Cyl
47D00612T7RX570	35-37	6.000	4	0.200	57.00	12.00	6mm Cyl
47D00612WERX570	35-37	6.000	4	0.200	57.00	12.00	6MM W
47D01020T1RX720	35-37	10.000	4	0.500	72.00	20.00	10mm Cyl
47D01020W1RX720	35-37	10.000	4	0.500	72.00	20.00	10MM W
47D01224T2RX830	35-37	12.000	4	0.600	73.00	24.00	12mm Cyl
47D01224W2RX830	35-37	12.000	4	0.600	73.00	24.00	12MM W
47D01632T3RX920	35-37	16.000	4	0.800	92.00	32.00	16mm Cyl
47D01632W3RX920	35-37	16.000	4	0.800	92.00	32.00	16MM W
47D02040T4RX104	35-37	20.000	4	1.000	104.00	40.00	20mm Cyl
47D02040W4RX104	35-37	20.000	4	1.000	104.00	40.00	20MM W

TEKROUNDS™ TEST REPORTS

Report 1

Material: Titanium Grade 5

Application: Shoulder Milling - Roughing

Tool	47D01224T2RX06
Tool Diameter - mm (inch)	12 (0.472)
Vc - m/min (inch/min)	80 (262)
Z	4
fz - mm/tooth (inch/tooth)	0.08 (0.003)
f - mm/min (inch/min)	680 (26.77)
ap - mm (inch)	22 (0.866)
ae - mm (inch)	2 (0.078)
Coolant	Emulsion
Tool Life - min.	100

Report 2

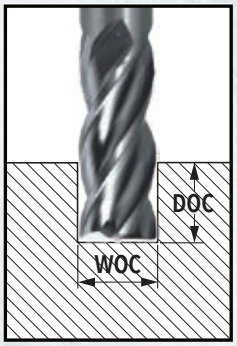
Material: Titanium Grade 5

Application: Trochoidal milling of pockets

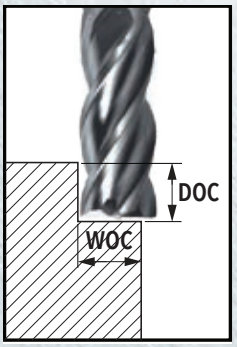
Tool	47D01632T3RX08
Tool Diameter - mm (inch)	16 (0.629)
Vc - m/min (inch/min)	80 (262)
Z	4
fz - mm/tooth (inch/tooth)	0.12 (trochoidal milling) (0.004)
f - mm/min (inch/min)	573 (22.55)
ap - mm (inch)	27 (1.06)
ae - mm (inch)	1.28 (0.050)
Coolant	Emulsion
Tool Life - min.	96 (end of test – the tool was still OK)

TEKROUNDS™ RECOMMENDED MACHINING CONDITIONS

D1 Diameter (inch)	Slotting Vc (sfm)	Slotting Fz (min)	WOC=1XD DOC=2XD Fz (max)
.250	130-200	.0010	.0016
.312	130-200	.0016	.0024
.375	164-230	.0016	.0024
.500	164-230	.0020	.0031
.625	200-260	.0020	.0031
.750	200-260	.0020	.0035



D1 Diameter (inch)	Side Milling Vc (sfm)	Side Milling Fz (min)	WOC=0.4-0.75XD DOC=2XD Fz (max)
.250	190-300	.0016	.0024
.312	190-300	.0016	.0024
.375	230-328	.0016	.0028
.500	230-328	.0020	.0031
.625	230-328	.0020	.0031
.750	230-328	.0020	.0035



D1 Diameter (inch)	Side Milling Vc (sfm)	Side Milling Fz (min)	WOC=0.2XD DOC=2XD Fz (max)
.250	190-300	.0016	.0024
.312	190-300	.0020	.0024
.375	230-328	.0020	.0028
.500	230-328	.0024	.0031
.625	230-328	.0028	.0040
.750	230-328	.0028	.0040