CHIP-SURFER™

CHIP-SURFER TAPER FORM TIPS FINISH 3X FASTER THAN A BALL NOSE... WITH IMPROVED SURFACE QUALITY!

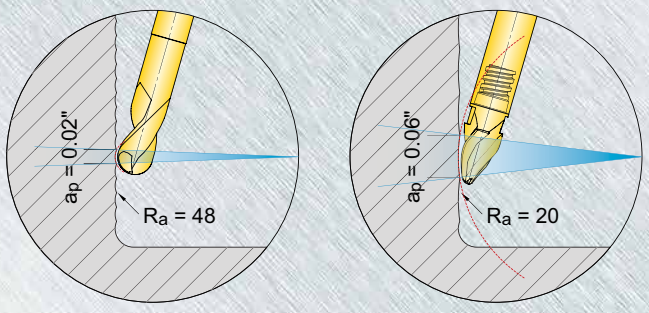
Tip Style:
Taper Form Ball Nose

Diameters:
8mm, 10mm, 12mm, 16mm

Ball Nose Tip Radius:
1.5mm, 2.0mm, 3.0mm, 4.0mm

Adaptions:
T5, T6, T8, T10

Materials:
Steel, Stainless Steel, Iron, High-Temp Alloys, Aluminum and Plastics



ball nose mill | Chip-Surfer™

General Features:

- Large "crowned" cutting edge offers 3X cutting length when compared to ball nose; resulting in 3x productivity!
- Radius blends ensure minimum scallop height for utmost finish
- Precision cutting edge profile tolerance of +/-.0004"
- Tips repeat on and off the shank within +/-.0005"
- Sharp & polished tips for aluminum and non-ferrous materials
- Coated tips for Aerospace and Die-Mold materials
- Shanks offered in steel, carbide & heavy metal
- Ideal for finish milling blisks, impellers, turbine rotors & parts with shoulders <90° using multi-axis machines

NEW PRODUCT ANNOUNCEMENT 2018

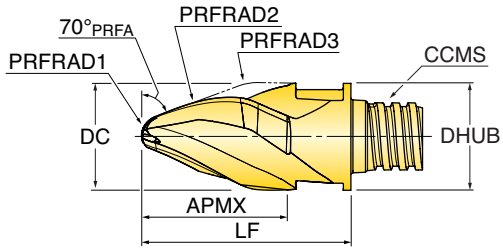
Member IMC Group
Ingersoll Cutting Tools

(800) 991-4225
www.ahbinc.com • customerservice@ahbinc.com
ISO Certified

SERIES 46W_0

TAPER FORM TIP FOR STEELS AND HI-TEMPS

Shoulder | Channeling | Ramping | Helical/Corkscrew | Contouring



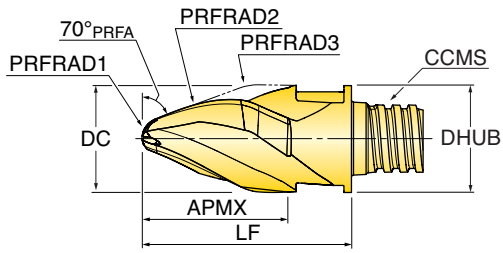
Part Number	DC Cutting Diameter	PRFRAD1 Profile Radius	PRFRAD2 Profile Radius	PRFRAD3 Profile Radius	APMX Depth of Cut Max.	LF Functional Length	ZEFF Effective Flutes	FHA Flute Helix Angle	CCMS Connection Code	DHUB Hub Diameter
46W08009TQRB010	8.00 mm	1.50 mm	250.00 mm	4.00 mm	10 mm	15.40 mm	3	30	Chip Surfer T05	7.60 mm
46W10013T6RB020	10.00 mm	2.00 mm	250.00 mm	5.00 mm	14 mm	19.40 mm	3	30	Chip Surfer T06	9.30 mm
46W12013T8RB030	12.00 mm	3.00 mm	250.00 mm	6.00 mm	14 mm	23.40 mm	3	30	Chip Surfer T08	11.50 mm
46W16017TRRB040	16.00 mm	4.00 mm	500.00 mm	8.00 mm	17 mm	26.00 mm	3	30	Chip Surfer T10	15.20 mm

NOTE: When assembling, be sure tip is seated firmly on shank with no gap. Tightening Torque: T05=60in/lbs, T06=90in/lbs, T08=130in/lbs, T10=250in/lbs. No lubricant on adaption. Wrenches sold seperately.

SERIES 46W_1

TAPER FORM TIP FOR NON-FERROUS

Shoulder | Channeling | Ramping | Helical/Corkscrew | Contouring

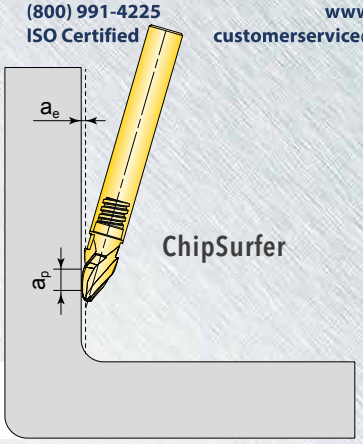


Part Number	DC Cutting Diameter	PRFRAD1 Profile Radius	PRFRAD2 Profile Radius	PRFRAD3 Profile Radius	APMX Depth of Cut Max.	LF Functional Length	ZEFF Effective Flutes	FHA Flute Helix Angle	CCMS Connection Code	DHUB Hub Diameter
46W08009TQRB011	8.00 mm	1.50 mm	250.00 mm	4.00 mm	10 mm	15.40 mm	3	30	Chip Surfer T05	7.60 mm
46W10013T6RB021	10.00 mm	2.00 mm	250.00 mm	5.00 mm	14 mm	19.40 mm	3	30	Chip Surfer T06	9.30 mm
46W12013T8RB031	12.00 mm	3.00 mm	250.00 mm	6.00 mm	14 mm	23.40 mm	3	30	Chip Surfer T08	11.50 mm
46W16017TRRB041	16.00 mm	4.00 mm	500.00 mm	8.00 mm	17 mm	26.00 mm	3	30	Chip Surfer T10	15.20 mm

NOTE: When assembling, be sure tip is seated firmly on shank with no gap. Tightening Torque: T05=60in/lbs, T06=90in/lbs, T08=130in/lbs, T10=250in/lbs. No lubricant on adaption. Wrenches sold seperately.

HARDWARE

	 Thin Wrench	 Optional Torque Driver	CCMS Connection Code	Torque Value
46W08009TQRB010	WS-0043	DT-60-06	T05	60in/lbs
46W08009TQRB011	WS-0043	DT-60-06	T05	60in/lbs
46W10013T6RB020	WS-0029	DT-90-08	T06	90in/lbs
46W10013T6RB021	WS-0029	DT-90-08	T06	90in/lbs
46W12013T8RB030	WS-0030	DT-130-10	T08	130in/lbs
46W12013T8RB031	WS-0030	DT-130-10	T08	130in/lbs
46W16017TRRB040	WS-0044	DT-250-13	T10	250in/lbs
46W16017TRRB041	WS-0044	DT-250-13	T10	250in/lbs



TECHNICAL INFORMATION

	Material	Material Group #VDI 3323	Grade	DC (mm)	SFM	Feed per Tooth (inch)	a_p Axial Depth of Cut Max.	a_e Radial Cutting Depth Max.
P	Non-alloy Steel	1 thru 5	IN2005	8	450-650	.0010-.0020	.03-.06	.0015-.0060
				10	450-650	.0010-.0025	.03-.06	.0015-.0060
				12	450-650	.0010-.0030	.03-.06	.0015-.0060
				16	450-650	.0010-.0040	.03-.06	.0020-.0070
	Low-alloy Steel	6 thru 9		8	450-650	.0010-.0020	.03-.06	.0015-.0060
				10	450-650	.0010-.0025	.03-.06	.0015-.0060
				12	450-650	.0010-.0030	.03-.06	.0015-.0060
				16	450-650	.0010-.0040	.03-.06	.0020-.0070
	High-alloy Steel	10, 11		8	400-600	.0007-.0015	.03-.06	.0015-.0060
				10	400-600	.0007-.0025	.03-.06	.0015-.0060
				12	400-600	.0010-.0030	.03-.06	.0015-.0060
				16	400-600	.0010-.0040	.03-.06	.0020-.0070
M	Stainless Steel	12, 13, 14	IN2005	8	200-350	.0007-.0015	.03-.06	.0015-.0060
				10	200-350	.0007-.0025	.03-.06	.0015-.0060
				12	200-350	.0010-.0030	.03-.06	.0015-.0060
				16	200-350	.0010-.0040	.03-.06	.0020-.0070
K	Iron	15 thru 20	IN2005	8	500-700	.0010-.0020	.03-.06	.0015-.0060
				10	500-700	.0010-.0025	.03-.06	.0015-.0060
				12	500-700	.0010-.0030	.03-.06	.0015-.0060
				16	500-700	.0010-.0040	.03-.06	.0020-.0070
N	Non ferrous & Plastics	21 thru 30	IN05	8	1000-3000	.0015-.0025	.03-.06	.0015-.0060
				10	1000-3000	.0015-.0030	.03-.06	.0015-.0060
				12	1000-3000	.0015-.0035	.03-.06	.0015-.0060
				16	1000-3000	.0015-.0045	.03-.06	.0020-.0070
S	High-Temp, Ti	31 thru 37	IN2005	8	80-250	.0007-.0015	.03-.06	.0015-.0060
				10	80-250	.0007-.0025	.03-.06	.0015-.0060
				12	80-250	.0010-.0030	.03-.06	.0015-.0060
				16	80-250	.0010-.0040	.03-.06	.0020-.0070

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.