



TCP90-AL Milling Cutters

Featuring BECKER TFC Inserts

Special Pricing Expires August 31st, 2017

- New advanced milling cutter program engineered for high speed machining of non-ferrous materials
- Ultra precise finishing with unique wiper-radius PCD / TFC inserts and micro-adjustable cartridges
- Milling cutter bodies made from lightweight 7075-T6 aviation grade aluminum
- Maxicool through coolant enabled for maximum chip evacuation and temperature control
- New TFC diamond grade for extreme tool life!



Scan here for our BECKER milling video



Engineered for High Speed Machining!

TCP90 Face Mills for PCD / TFC Milling Applications

Designation	Dia.	Bore	Height	Flutes	Cartridge	Cartridge Clamp Screw	Insert Torx Screw	Height Adj. Screw	List Price	SPECIAL PRICE
Insert: CPGX-32.51...										
TCP90-2000-AL	2.00	.75	2.00	3	BC10X50	M5 SHBS	TCP951	HAS6823	\$499.00	\$379.00
TCP90-2500-AL	2.50	1.00	2.00	5					\$699.00	\$539.00
TCP90-3000-AL	3.00	1.00	2.00	7					\$899.00	\$699.00
TCP90-4000-AL	4.00	1.25	2.00	10					\$1199.00	\$969.00
TCP90-5000-AL	5.00	1.50	2.50	11					\$1399.00	\$1149.00
TCP90-6000-AL	6.00	1.50	2.50	13					\$1699.00	\$1359.00
TCP90-8000-AL	8.00	2.00	2.50	16					\$1999.00	\$1629.00

CPGX Milling Insert with Wiper

Designation	d	d'	s	l	l'	r	TFC	PDC-CU-S	TFC SPECIAL	PDC-CU-S SPECIAL
							●	●		
CPGX-32.51PDR	.375	.173	.156	.382	.169	.016	●	●	\$89.95	\$69.95
CPGX-32.51NWR							●	●		
CPGX-32.51FLW							●	●		
CPGX-32.51SFR							●	●		

Application: TCP90 Milling Cutter

Milling the face of a cast aluminum oil pan.
Material is A380 Aluminum consisting of 9% silicon.

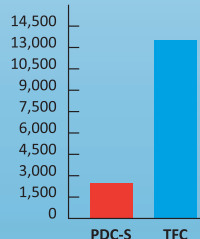
Cutting Data:

4.00" diameter cutter (Z=10)
8000 RPM (through tool coolant)
213 IPM feedrate
0.040 - 0.080" D.O.C.
32 RMS

Part life:

PDC-S= 2,500 pieces
TFC= 13,500 pieces

540% Increase
in tool life using TFC!



Chipbreaker Information

PDR	Crown radius wiper. Suitable for general purpose applications with stable set-ups.
NWR	Full radius insert with no wiper facet. Suitable for unstable set-ups or thin wall parts. Excellent for sealing surfaces.
FLW	Flat wiper facet for general machining and unstable set-ups.
SFR	Very large crown radius wiper facet. Suitable for super finishing on very stable thick wall parts.



Rani Tool Corp.

205 Kelsey St., Unit #104, Newington, CT 06111

Tel: (888) 554-RANI or (860) 665-7771 • Fax: (860) 665-7319

E-mail: sales@ranitool.com • www.ranitool.com

Available From:

TCP90-AL Milling Cutters

TFC ... For Extreme Performance

Performance: Solid diamond with no binder. Cutting edge is extremely sharp and without microfractures generating no cutting pressure, allowing burr-free results with tolerances close to zero. Extremely flank wear resistant with maximum thermal conductivity, and good toughness.

Application: Super finishing to roughing of all nonferrous metals and non-metallics with abrasive reinforcement or silicon. (HSC - High Tech)


PDC-CU-S

Performance: Solid polycrystalline diamond (compound cutting material) without carbide reinforcement, coarse grit size, good cutting edge sharpness and low cutting pressure allowing for minor tolerances. Well suited for milling tools with high depth of cut.

Application: Finishing and milling of all non-ferrous metals and non-metallics with high content of abrasive reinforcement or silicon.

Security Features

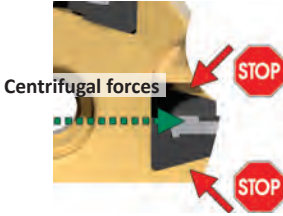
Insert Double Lock



Secondary insert step locks against matching step on insert cartridge

Designed to act as a double lock in conjunction with the insert tapered screw

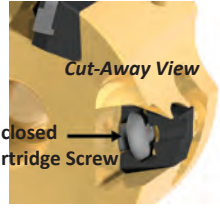
Cartridge Dovetail Lock



Insert cartridge is fitted into cutter body with dovetail design

Centrifugal forces acting on insert cartridge are neutralized by wedge profile of cartridge and matching shape on cutter body

Enclosed Cartridge Clamping Screw




Unique cartridge shrouds cartridge clamp screw within steel body

Potential screw breakage is contained within steel of cartridge – the screw has no place to eject

Performance Features


Micro Adjustable



Easily pre-set cartridges to within microns


All new milling cutters are factory pre-set in height to within ± 0.0004 with a master gauge insert

Through Coolant Enabled



Coolant ports are directed at the cutting edge to extend tool life and improve surface finishes

Wiper Radius



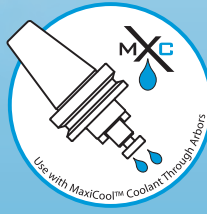
Unique wiper is a compound radius that outperforms traditional wiper flats

With every insert in the cutter loaded with the wiper radius, super finishing is easily attained



Coolant Caps

- Optional Coolant Caps available for larger cutter diameters to provide 360° direct coolant supply at the cutting edge
- Balanced by design and mounted securely to maintain constant coolant supply at maximum RPM
- Made from the same lightweight 7075-T6 aviation grade aluminum as cutter bodies for reliable long term use and service



Cutter Designation	Thru Coolant Cap Screw	Coolant Cap	Mounting Cap Screw	Lock Washer	Washer
TCP90-5000-AL	CCS-125	CTP-125	SHCS-M4	LW-M4	W-M4
TCP90-6000-AL	CCS-160	CTP-160	SHCS-M5	LW-M5	W-M5
TCP90-8000-AL	--	CTP-200	SHCS-M8	LW-M8	W-M8

When ordering Coolant Caps, Mounting Cap Screws and Washers are included. Thru Coolant Cap Screw must be purchased separately.

Materials	Conditions of Chip Removal	Application Range - Cutting Speed N01 - N40		
		N01 - N20 (HSC)	N20 - N30 (HSC)	N25 - N40 (HSC)
N Nonferrous metals Aluminum alloys without silicon	High-Speed Milling	3.2µin - 100µin	100µin - 200µin	200µin - 400µin
	continuous	TFC	PDC-CU-S / TFC	PDC-CU-S / TFC
	2600-14625	2600-13000	2600-8125	
N Nonferrous metals Aluminum alloys with less than 12% silicon	heavily + slightly interrupted	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S
	2600-14625	2600-13000	2600-8125	
	continuous	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S / TFC
N Nonferrous metals Copper and copper alloys brass, bronze, precious metals	continuous	2600-1300	2600-11375	2600-8775
	heavily + slightly interrupted	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S
	2600-13000	2600-11375	2600-8775	
N Nonferrous metals Copper and copper alloys brass, bronze, precious metals	continuous	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S / TFC
	2600-9750	2600-8125	2275-7150	
	heavily + slightly interrupted	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S
N Non-metallics with re-inforcement (GFK/CFK/Graphite)	continuous	2600-9750	2600-8125	2275-7150
	continuous	TFC	PDC-CU-S / TFC	PDC-CU-S
	1000-7000	700-6000	500-5000	
N Non-metallics with re-inforcement (GFK/CFK/Graphite)	heavily + slightly interrupted	PDC-CU-S / TFC	PDC-CU-S / TFC	PDC-CU-S
	1000-7000	700-6000	500-5000	

Coolant: Flood or through coolant | Proper wiper radius required for application