



# THP60

*coolant-through end mills & face mills*



## THP60 Face Mills

- Coolant through (2.0" - 4.0")
- Available in sizes; 2", 2.5", 3", 4", 5" and 6"
- Differential pitch insert spacing
- Smooth cutting action
- High metal removal rates
- Produces excellent surface finishes
- Specials available through QuickTool™ program



## THP60 End Mills

- Coolant through
- Available in sizes; 1.25" and 1.5"
- Smooth cutting action
- High metal removal rates
- Produces excellent surface finishes
- Specials available through QuickTool™ program

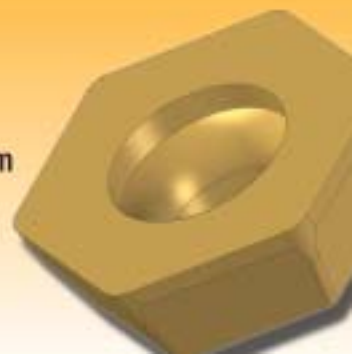


## MAXICOOL™

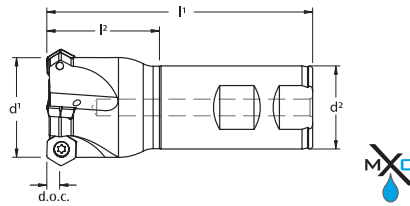
- Coolant through shell mill arbors in BT40, CV40 and CV50 Tapers
- Milling cutters with large coolant holes, directed at insert edge to provide generous coolant pressure and volume, "in the cutting zone"
- 10 MaxiCool™ enabled milling cutter styles to cover all application needs

## HPGT Inserts

- Economical 6 cutting edges
- Wiper inserts with 3 cutting edges
- Proven Widia milling grades
- Specific grades and geometry for aluminum
- 4 insert geometries

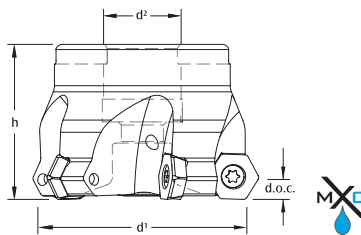


# THP60 End Mills & Face Mills



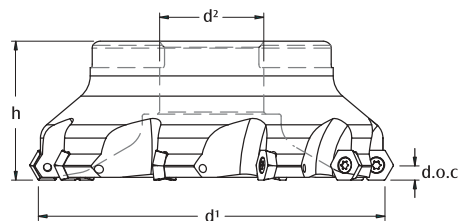
## THP60 End Mills

Designation	d <sup>1</sup>	d <sup>2</sup>	l <sup>1</sup>	l <sup>2</sup>	d.o.c.	flutes
Insert:	HPGT / HPPT-06T3...					
THP60-1250-C	1.250	1.250	4.00	1.72	.180	3
THP60-1500-C	1.500	1.250	4.00	1.72	.180	4
Spare Parts:	insert screw: 214.80.388 / wrench: 214.80.012 (f/t)					



## THP60 Face Mills

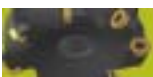
Designation	d <sup>1</sup>	d <sup>2</sup>	h	d.o.c.	flutes	kg
Insert:	HPGT / HPPT-06T3...					
THP60-2000-MC	2.000	.750	1.50	.180	5	.50
THP60-2500-MC	2.500	1.000	1.75	.180	6	.90
THP60-3000-MC	3.000	1.000	2.00	.180	7	1.20
THP60-4000-MC	4.000	1.250	2.00	.180	9	1.60
Spare Parts:	insert screw: 214.80.388 / wrench: 214.80.012 (f/t)					



## THP60 Face Mills

Designation	d <sup>1</sup>	d <sup>2</sup>	h	d.o.c.	flutes	kg
Insert:	HPGT / HPPT-06T3...					
THP60-4000	4.000	1.500	2.00	.180	9	1.60
THP60-5000	5.000	1.500	2.00	.180	10	2.90
THP60-6000	6.000	1.500	2.00	.180	12	4.10
Spare Parts:	insert screw: 214.80.388 / wrench: 214.80.012 (f/t)					

Note: THP60-4000 with 1.500" bore, 5.000", and 6.000" diameter cutters are presently not MaxiCool™ enabled



# Widia THP60 Inserts

The newly developed THP60 end and face mills offer exceptional, economical performance for general face milling applications. End mills and face mills from 2" diameter to 4" diameter are MaxiCool™ enabled giving further benefit of increased performance.

With inserts having an economical 6 cutting edges, together with Widia proven milling grades, all material groups are covered to take profitability to the next level.

Featuring:

- differential pitch insert spacing to provide exceptionally smooth cutting action
- through coolant capable
- minimal axial and radial run-out
- four insert geometries

Available in 7 grades:

- 4 coated carbide grades
- 2 uncoated carbide grades
- 1 cermet grade



LD  
for light machining



GD  
for general face milling in steels and cast irons










AL  
optimized for aluminum applications

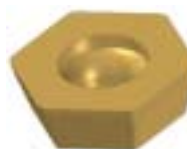
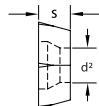
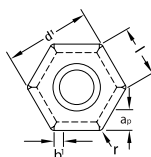


3W  
wiper insert geometry when exceptional surface finish is required (3 wiper edges)

## Insert Style / Combination

	Material	Insert	Insert style / combination	ap max (inch)	fz max (inch)	Vc max (RPM)
 $\varnothing = 1\frac{1}{4}'' + 1\frac{1}{2}''$   $\varnothing = 2'' - 6''$	Al	HPGT-06T3DZFR-LDAL		.118	.016	8,000
	steel & cast iron	HPGT-06T3DZER-LD		.118	.010	
		HPGT-06T3DZEN-GD & HPGT-06T3DZER-GD3W		.180	.010	
		HPGT-06T3DZEN-GD		.180	.010	
		HPPT-06T3DZEN-GD		.180	.014	

## Widia Inserts for THP60 Milling Cutters



Designation	l	d <sup>1</sup>	d <sup>2</sup>	s	ap	b <sup>1</sup>	r	coated				cermet		uncoated	
								TN7525	TN7535	TN5515	TN2510	TTI-25	THM	THM-U	
HPPT-06T3DZEN-GD	.236	.433	.173	.156	.180	-	.039	●	●	●					
HPGT-06T3DZEN-GD	.236	.433	.173	.156	.180	-	.039	●	●	●	●	●			
HPGT-06T3DZEN-GD3W*	.236	.433	.173	.156	.180	.157	.039	●	●	●	●	●			
HPGT-06T3DZER-LD	.236	.433	.173	.156	.118	.098	.039	●	●	●	●	●			
HPGT-06T3DZFR-LDAL	.236	.433	.173	.156	.118	.079	.039						●	●	

\*only use in combination with HPGT...GD



# THP60 Cutting Data

Cutting Data for THP60 Milling Cutters					Coated			Cermet			Uncoated										
ISO 513	Milling Cutter / Material				TN7525			TN7535			TTI-25			THM-U			THM				
	Cutter	Max. ap	Carbide Insert		feed fz inches per tooth																
	THP60	.180	HPGT / HPPT-06T3...		.006	.013	.018	.006	.013	.018	.006	.014	.020	---	---	---	---	---	---		
	Work Material	Condition	Hardness HB	Mat. Gr.	cutting speeds in sfpm																
P	Carbon steel,	< 0.25% C	annealed	125	1	1335	1056	910	1170	910	780	1463	1121	975	---	---	---	---	---	---	
	Unalloyed steel,	≥ 0.25% C	annealed	190	2	1056	813	699	813	618	536	1235	910	780	---	---	---	---	---	---	
	cast steel & free cutting steel	< 0.55% C	heat-treated	250	3	894	683	601	683	520	455	1008	764	650	---	---	---	---	---	---	
		≥ 0.55% C	annealed	220	4	910	699	601	699	536	455	1138	845	715	---	---	---	---	---	---	
	Low alloy steel and cast steel			heat-treated	300	5	764	553	471	585	423	358	---	---	---	---	---	---	---	---	---
				annealed	200	6	1024	764	634	780	585	488	1235	910	910	---	---	---	---	---	---
				heat-treated	275	7	764	601	520	585	455	390	---	---	---	---	---	---	---	---	---
				heat-treated	300	8	683	520	423	520	390	325	---	---	---	---	---	---	---	---	---
	High alloy steel cast steel & tool steel			heat-treated	350	9	601	423	---	455	325	---	---	---	---	---	---	---	---	---	---
				annealed	200	10	764	618	553	585	471	423	1170	861	715	---	---	---	---	---	---
	heat-treated	325	11	520	390	---	390	293	---	---	---	---	---	---	---	---	---	---			

Cutting Data for THP60 Milling Cutters					Coated			Cermet			Uncoated								
ISO 513	Milling Cutter / Material				TN2510			TN5515			TTI-25			THM-U			THM		
	Cutter	Max. ap	Carbide Insert		feed fz inches per tooth														
	THP60	.180	HPGT / HPPT-06T3...		.005	.010	.014	.005	.010	.014	.004	.008	.010	---	---	---	---	---	---
	Work Material	Condition	Hardness HB	Mat. Gr.	cutting speeds in sfpm														
M	400 series stainless & cast steel	ferrit./mart.	200	12	975	910	634	748	569	488	1138	845	715	---	---	---	---	---	---
			240	13	845	618	520	650	471	390	975	748	650	---	---	---	---	---	---
	300 series stainless & cast steel	austenitic	180	14	845	520	---	650	390	---	975	780	585	---	---	---	---	---	---

Cutting Data for THP60 Milling Cutters					Coated			Cermet			Uncoated								
ISO 513	Milling Cutter / Material				TN2510			TN5515			TTI-25			THM-U			THM		
	Cutter	Max. ap	Carbide Insert		feed fz inches per tooth														
	THP60	.180	HPGT / HPPT-06T3...		.004	.010	.016	.007	.014	.020	.005	.010	.013	---	---	---	.007	.017	.024
	Work Material	Condition	Hardness HB	Mat. Gr.	cutting speeds in sfpm														
K	Grey cast iron	ferrit./pearl.	180	15	1607	1181	984	1246	918	771	1607	1181	984	---	---	---	525	394	328
			260	16	1181	918	787	951	705	607	1181	918	787	---	---	---	394	295	262
	Nodular cast iron	ferritic	160	17	1246	984	820	1066	771	640	1246	984	820	---	---	---	459	344	295
			250	18	886	656	525	771	476	377	886	656	525	---	---	---	328	230	180
	Malleable cast iron	ferritic	130	19	1050	828	656	1066	640	508	1050	820	656	---	---	---	459	295	230
			230	20	886	689	558	853	525	426	886	689	558	---	---	---	361	230	180

Cutting Data for THP60 Milling Cutters					Coated			Cermet			Uncoated								
ISO 513	Milling Cutter / Material				TN2510			TN5515			TTI-25			THM-U			THM		
	Cutter	Max. ap	Carbide Insert		feed fz inches per tooth														
	THP60	.180	HPGT-06T3...		---	---	---	---	---	---	---	---	---	.006	.014	.020	.006	.014	.020
	Work Material	Condition	Hardness HB	Mat. Gr.	cutting speeds in sfpm														
N	Cast aluminum alloys	< 12% Si	75	23	---	---	---	---	---	---	---	---	---	4920	3690	2952	3280	2460	1968
		age-hardened	90	24	---	---	---	---	---	---	---	---	---	3936	2952	2460	2624	1968	1640
		≥ 12% Si heat resistant	130	25	---	---	---	---	---	---	---	---	---	2460	1722	1230	1640	1148	820
	Copper & copper alloys	Red brass, brass	90	27	---	---	---	---	---	---	---	---	---	1968	1230	836	1312	820	558
Bronze			100	28	---	---	---	---	---	---	---	---	---	1476	886	492	984	590	328



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