

NTK Tooling Selection Machining Aluminum Components







Features

- More teeth = More productivity
- Light weight aluminum body
- Diameters range from 50mm up to 125mm
- Adjustable edge height
- Produces outstanding surface finishes
- Polycrystalline diamond PD1 grade inserts double chamfer style available for less tool pressure
- Internal coolant supply
- Inserts can be reground up to 4 times marked with a star to indicate how many times reground
- Guaranteed setup service is available



Work Material	Grade	Dry	Wet	Cutting Speed (SFM)											Depth of Cut						
				1000	30	00 5	000	7000	9000	11000	13000	15000	17000	19000	.002	.004	.006	.008	.010	.012	(inch)
Ν																					
Aluminum Alloy (Si≦13)	PD1	0	•																		250
Aluminum Alloy (Si≧13)	PD1	0	•																		250





Features

- Diameters range from φ.787" φ3.937"
- Excellent rigidity with steel cutter body achieves exceptional reliability
- Selection of fixed pocket cutters, so no presetting is required
- Adjustable style insert pockets to set edge height
- Polycrystalline diamond- PD1 grade inserts with edge radius or chamfer
- PVD Coated Carbide TM1 grade inserts with chipbreaker
- Wiper on all inserts for superior surface finish

Work	Grade	Dry	Wet		Cutting Speed (SFM)										Feed (IPT)							Depth of Cut
Material				10	00 30	00 50	00 70	00 90	00 110	00 13	000 15	000 1	7000	19000	.002	.004	.0	06 .0	08 .0	010	.012	(inch)
N Aluminum Allov	PD1	0										1										~.200
(Si≦13)	TM1	0	•				11										11					~.200
Aluminum Alloy	PD1	0	•																			~.200
(Si≧13)	TM1	0	•																			~.200

Options for our Swiss Tooling

PD1

PCD (Polycrystalline Diamond)

Features

- Sharp cutting edge
- Enables high precision and stable machining by controlling the potential for built-up edge
- Faster cutting speed than carbide
- Recommended for cutting aluminum and copper alloys thanks to its excellent adhesion resistance
- Incorporates a very sharp cutting edge

TM4 / TM1



Thin: TiN-TiCN-TiAIN coated carbide

Features

- Excellent dimensional stability and tool life thanks to triple titanium layers with superb adherence to insert substrate
- Balance of wear resistance and adhesion resistance Insert edge sharpness



PCD (Polycrystalline Diamond)

Features



- Super micro grain PCD maintains sharp cutting edges with increased chipping resistance
- Good chip control due to the high rake angle on the insert
- 3D Chipbreaker is now available

VM1



Thin: TiCN coated carbide

Features

- Sharp cutting edge
- High precision machining of small diameter parts even in high-speed range
- Especially for machining free cutting steels (SUM materials) - like 7075-T6 Aluminum allovs
- For high-precision machining with longer tool life even in the high-speed machining range
- Excellent wear resistance

KM1

Uncoated carbide

Features

- Very sharp cutting edges with uncoated Micro-grain carbide
- Excellent adhesion resistance because of mirror-finish
- A wide range of cutting tools in various types available for Swiss-type lathes
- Good for non-ferrous materials like PEEK, Brass, Copper, and Aluminum alloys like 6061 and 5056
- TM4, VM1, and KM1 insert geometries available for: Front turning Back turning Cut-Off Grooving Threading **ID Boring** Shaper Duo (machining square, hexagon, hexalobular sockets) Indexable End Mills



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