

MACOR[®]

Machinable Glass Ceramic
for Industrial Applications



Machining Guidance

- Key factors for successful machining are proper machining speeds and coolant.
- MACOR[®] Machinable Glass Ceramic can be machined with high speed steel tools, but carbide tools are recommended for longer wear.
- Achieve the best results by using a watersoluble coolant, (such as Cimstar 40 - Pink) especially formulated for cutting and grinding glass or ceramics.
- No post firing is required after machining.

Grinding

Diamond, siliconcarbide, or aluminumoxide grinding wheels can be used.

Polishing

Start with loose 400-grit silicon carbide on a steel wheel. For the final polish, use cerium oxide or alumina on a polishing pad for glass or ceramics.

A 0.5µin.-AA finish can be achieved.

Turning

Cutting speed	30-50 sfm
Feed rate	.002-.005 ipr
Depth of cut	.150-.250 in.

Milling

Cutting speed	20-35 sfm
Chip load	.002 ipt
Depth of cut	.150-.200 in.

Sawing

Use a carbide grit blade at a band speed of 100 fpm. An alternative is a silicon carbide or diamond cut-off wheel.

Drilling

Drill size	Spindle Speed	Feed Rate
1/4 in.	300 rpm	.005 ipr
1/2	250	.007
3/4	200	.010
1	100	.012
2	50	.015

Allow at least .050" of extra material on the back side for breakout. This excess can be removed after drilling.

Tapping

Make clearance holes one size larger than those recommended for metals. Chamfer both ends of the hole to reduce chipping. Run the tap in one direction only. (Turning the tap back and forth can cause chipping.)

Continuously flush with water or coolant to clear chips and dust from the tap.



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