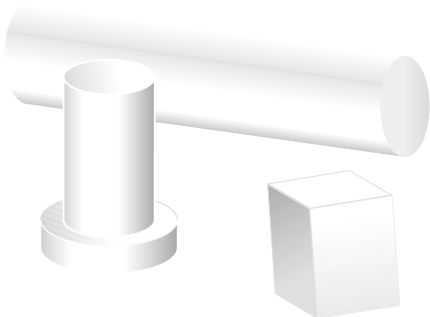


## Photoveel™ Machinable Glass / Ceramic



**P**hotoveel Machinable Glass/Ceramic can be easily machined into complex forms without hard tooling or intricate firing procedures. Photoveel instantly transforms a standard machine shop to an "in house" Ceramic Fabrication Facility. With features like 1100°C operating temperature and 0° porosity Photoveel can be used for the toughest of applications. Specify Photoveel for economic, design flexibility that you control. Photoveel is easily machined using standard machine shop tooling. It is ideal for prototype and small volume production of ceramic parts.

### Specifications

Max Temperature	1100°C
Porosity	0°
Density	2.64 g/cc
Hardness	90 HS
Flex Strength	19.9 kpsi
Compressive Strength	71 kpsi
Dielectric Strength	380V/mil
Resistivity	$5.9 \times 10^{13}$ ohm
Loss Tangent	.003
Thermal Exp.	$97 \times 10^{-7}$ in/in°C
Thermal Conductivity	0.0047 cal/cm <sup>2</sup> °C

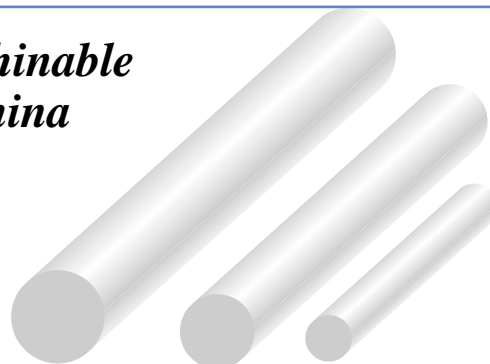
Part No.	Size	Price ea.
R1920	1/2" x 3" Rod	
R1921	3/4" x 3" Rod	
R1949	3/4" x 6" Rod	
R1950	3/4" x 12" Rod	
R1952	1" x 3" Rod	
R19526	1" x 6" Rod	
R1900	1/8" x 3" x 3"	
R1902	1/8" x 6" x 6"	
R1905	1/4" x 3" x 3"	
R1907	1/4" x 6" x 6"	
R1915	1/2" x 3" x 3"	
R1917	1/2" x 4" x 4"	

## Macor® Machinable Alumina Ceramic

**M**acor Machinable Alumina Ceramic is high purity, low porosity ceramic allowing for continuous use to 1000°C. This ceramic provides the convenience of an in house machinable material with the outstanding properties of alumina. It is readily machinable and ideal for applications in electrical, electronic, metallurgical, fixture and vacuum industries. Standard carbide tooling is required for all machining operations. Other sizes and shapes are available on request.

Part No.	Size	Price ea.
MR2	1/4" dia. x 6" Rod	
MR4	1/2" dia. x 6" Rod	
MR6	3/4" dia. x 6" Rod	
MR8	1" dia. x 6" Rod	

## Machinable Alumina



#960 Machinable Alumina Ceramic is high purity, low porosity ceramic allowing for continuous use to 3000°F. This ceramic provides the convenience of an in house machinable material with the outstanding properties of alumina. This #960 alumina ceramic is much harder than the photoveel described on the left. It is readily machinable and ideal for applications in electrical, electronic, metallurgical, fixture and vacuum industries. Standard carbide tooling is required for all machining operations.

### Properties

Max Operating Temp.	3000°F
Melting Point	3400°F
Compressive Strength	60,000 psi
Flexural Strength	38,000 psi
Thermal Expansion	$4.3 \times 10^{-6}$
Density	3.8 gm/cc
Dielectric Strength	200 volts/mil
Volume Resistivity	$10^{15}$ ohm/cm
Loss Factor 1 MHz	.0016
Dielectric Constant	9
Thermal Conductivity	40

Part No.	Size	Price ea.
960-1	1/4" dia. x 6"	
960-3	1/2" dia. x 12"	
960-5	3/4" dia. x 12"	
960-7	1" dia. x 12"	
960-9	2" dia. x 12"	