

# Rokide® Rods Technical Bulletin



## ROKIDE® A (Aluminum Oxide) Ceramic Rod for Thermal Spraying

### PROPERTIES

- Good Electrical Insulator
- Very Good Abrasion Resistance
- Good Thermal Shock Resistance

### AVAILABLE ROD SIZES

- 989100190000 - 3/16" Diameter x 24" Length (4.75 mm x 610 mm)
- 989100200000 - 1/4" Diameter x 24" Length (6.35 mm x 610 mm)

### SPRAY PARAMETERS

Acetylene	Pressure: 15 PSI	Ball Height: 60+
Oxygen	Pressure: 90 PSI	Ball Height: 90+
Air	Pressure: 80 PSI	
Standoff Distance	4 inches (10 cm)	

Rod Type	989100190000 (3/16" x 24")	989100200000 (1/4" x 24")
Nozzle	987733064000	987733213000
		987733279000
Air Cap	987733281000	987733281000
Rod Speed	7-8 in/min (18-20 cm/min)	6-7 in/min (15-18 cm/min)
Lay Down Rate	1.2 Lbs/hr (0.55 Kg/hr)	1.6 Lbs/hr (0.73 Kg/hr)
Deposit Efficiency	79%	73%

### APPLICATIONS

- Graphite Furnace Trays
- Mechanical Seal Faces
- High Pressure Spacers
- Entry Guide Vanes
- Armature Shafts (Hand Tools)
- Extrusion Die Plates (Plastic)
- Induction Heating Coils
- Induction Welding Fixtures
- Radomes
- Thermowell Tubes
- Platinum Spinnerets
- Ceramic Furnace Cores
- Furnace Hearth Plates
- Ceramic Furnace Trays

# ROKIDE® A (Aluminum Oxide) Ceramic Rod for Thermal Spraying



## PACKAGING

Rod Type	989100190000 (3/16" x 24")	989100200000 (1/4" x 24")
Rods Packaged in tubes	100 rods	100 rods
(3) Tubes per Cardboard Box	300 rods	300 rods
Bulk shipment - Rocon Drum	2,500 rods	1,600 Rods
Tube weight	7 Lbs. (3.2 Kg)	12 Lbs. (5.4 Kg)

## COATING FEATURES

PHYSICAL	
Color	White
Total porosity	12%
Bulk Density	3.2 g/cc
Crystal Phase	Gamma Alumina

MECHANICAL	
Coating Hardness	772 (Vickers/DPH)
Bond Strength	3,374 psi
Sand Blast Penetration	0.02265 Depth/mm
Falex Wear test	47.9 mm <sup>3</sup> /KMS

THERMAL	
Coefficient of Expansion	4.1 x 10 <sup>-6</sup> from 70° - 2250° F (in/in/°F)
Melt Temperature	3600° F
Conductivity	19 BTU/Hr/ft <sup>2</sup> (1000 -2000° F)
Total Emittance	0.8 - 0.4 (200 - 1000° C)

ELECTRICAL	
Conductivity	Nonconductor
Electrical Resistivity	4.5 x 10 <sup>6</sup> at 500°F (OHM - In)
Dielectric Strength	(AC Volts/mil Thk.)
	0.005" Thk. -160
	0.010" Thk. -120
	0.020" Thk. - 65
	0.030" Thk. - 48+
Dielectric Constant	10 at 0-600°F
Dissipation Factor	0.05 at 0-600°F
Loss Factor	0.5

## TYPICAL CHEMICAL COMPOSITION (%)

Al <sub>2</sub> O <sub>3</sub>	98.38
SiO <sub>2</sub>	0.78
TiO <sub>2</sub>	0.01
CaO	0.14
NaO <sub>2</sub>	0.30
Fe <sub>2</sub> O <sub>3</sub>	0.05
MgO	0.34

Ceramic Materials  
1 New Bond Street PO Box 15137  
Worcester, MA 01615-0137  
Tel: 508-795-5000 Fax: 508-795-5715  
Coatingsolutions@Saint-Gobain.com  
[www.coatingsolutions.saint-gobain.com](http://www.coatingsolutions.saint-gobain.com)

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