Technical Data Sheet
Aerospace Sealants

PR-1538 potting and molding compound

Description

PR-1538 is a high hardness potting and molding compound. It has a service temperature range from -70°F (-57°C) to 300°F (149°C). This material is designed for potting electrical connectors, molding electrical cables and mechanical parts, circuit board coating and/or electrical embedding compound. The cured compound is resistant to contact with water and oils.

PR-1538 is a two-part, chemically curing polyurethane compound. It cures at room temperature to a tough, semiflexible, cold flow-resistant rubber. The material has very good electrical properties, especially dielectric strength and volume resistivity, in thin films.

The following tests are in accordance with PRCDeSoto International and MIL-S-8516 specification test methods.

Application properties (typical)

Color	
Part A	Amber or Black
Part B	Straw
Mixed	Amber or Black
Mixing ratio	Part A:Part B
By weight	32:100
Viscosity	
(Brookfield #5 @ 10 rpm), Poise (Pa-s)	
two-part unit	120 (12)
premixed and frozen (PMF)	300 (30)
Application life to 2500 poise (250 Pa-s) @ 75°F (24°C), hours	
two-part unit	4
premixed and frozen (PMF)	2

	Tack free time (hours)	Mold release time (hours)	Cure time to 70 A Durometer (hours)
75°F (24°C)	24	48	168
180°F (82°C)	1	3	6

Performance properties (typical)

Cured 16 hours @ 180°F (82°C)	
Cured specific gravity	1.05
Nonvolatile content, %	99
Ultimate cure hardness, Durometer A	80
Volume shrinkage, %	1.4
Tensile strength, psi (KPa)	3000 (20690)
Ultimate elongation, %	600
Tear strength (Die C), lbs./in.	200
Compression set (ASTM D 395, Method B), %	50
Fungus resistance (MIL-E-5272)	Non-nutrient
Peel strength, pli (N/25 mm)	
Aluminum alloy*	102 (455)
Cadmium plate*	75 (332)
Neoprene**	25 (111)
Polyvinyl chloride***	25 (111)

* Primed with PR-425 primer
** Buffed and primed with PR-1523-M Adhesion promoter
*** Tackified with methyl ethyl ketone and primed with PR-1543 Adhesion promoter

Dielectric constant	
1 KHz @ 75°F (24°C)	6.8
10 KHz @ 75°F (24°C)	6.2
1 MHz @ 75°F (24°C)	4.4
Power factor	
1 KHz @ 75°F (24°C)	0.05
10 KHz @ 75°F (24°C)	0.06
1 MHz @ 75°F (24°C)	0.09
Volume resistivity, ohm-cm	
@ 75°F (24°C)	1×10^{13}
@ 300°F (149°C)	5×10^{9}
Surface resistivity, ohms	
@ 75°F (24°C)	5×10^{12}
Insulation resistance, megohms	
@ 75°F (24°C)°	200,000
@ 150°F (66°C)	15,000
@ 250°F (121°C)	750
Dielectric strength, volts/mil	
125 mils	275
25 mils	75

Note: The application and performance property values above are typical for the material, but not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions and configurations.

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Surface preparation

Prepare surfaces according to the PR-1500 Series Potting/ Molding Application Guide.

Mixing instructions

PR-1538 is supplied as a two-part unit or premixed and frozen Semco® cartridges. Mix according to the PR-1500 Series Potting/Molding Application Guide.

Storage life

The storage life of PR-1538 in a two-part unit is at least 12 months when stored at temperatures below 80°F (27°C) in original, unopened containers. The storage life of PR-1538 in premixed and frozen Semco® cartridges is at least 30 days when stored at temperatures below -40°F (-40°C) in original, unopened containers.

Health precautions

This product is safe to use and apply when recommended precautions are followed. Before using this product, read and understand the Material Safety Data Sheet (MSDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An MSDS is available on request. Avoid overexposure. Obtain medical care in case of extreme overexposure.

For industrial use only. Keep away from children.

For emergency medical information call
1-800-228-5635.

Additional information can be found at:
www.ppgaerospace.com

For sales and ordering information call
1-800-AEROMIX (237-6649).

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