

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 PRC-DeSoto International and MIL-S-8516 specification test methods.

Application properties

Color		
Part A		Amber or Black
Part B		Straw
Mixed		Amber or Black
Mixing ratio		Part A:Part B
By weight		32:100
Base 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
		Cure time
	Tack free	Mold release
	time	to 70 A
	(hours)	(hours)
		Durometer
		(hours)
75°F (24°C)	24	48
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*	30 (133)
Cadmium plate*	40 (178)
Neoprene**	25 (111)
Polyvinyl chloride***	25 (111)
*Primed with PR-420 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 X 10 ¹³
@ 300°F (149°C)	5 X 10 ⁹
Surface resistivity, ohms	
@ 75°F (24°C)	5 X 10 ¹²
Insulation resistance, megohms	
@ 75°F (24°C)	200,000
@ 150°F (66°C)	15,000
@ 250°F (121°C)	750

PR-1538 Potting and molding compound

Dielectric strength, volts/mil	
125 mils	275
25 mils	750

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.

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 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.

For sales and ordering information call +1 775-323-7542.

Semco is a trademark of PRC-DeSoto International, Inc., registered with the U.S. Patent Office.

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and assumes all risks and liability resulting from his use of the product. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.