



PR-1665 cryogenic adhesive

Description

PR-1665 is a high tear and tensile strength, cryogenic potting and molding compound. It has a service temperature range from -320 °F (-196 °C) to 225 °F (107 °C), with intermittent excursions up to 275 °F (121 °C). This material is designed for applications exposed to cryogenic temperatures where high flexibility and strength are required.

PR-1665 is a two-part, chemically curing polyurethane compound. The product contains no fillers, solvents, plasticizers or MBOCA (4,4'-methylene-bis-(2-chloroaniline))*.

The following tests are in accordance with PRC-DeSoto International specification test methods.

Application properties (typical)

Color	
Part A	Dark amber
Part B	Straw
Mixed	Amber
Mixing Ratio	
By weight	Part A:Part B 36:100

Viscosity, [Brookfield #4 @ 10 rpm], Poise (Pa-s)	
Part A	600 (60)
Part B	250 (25)
Mixed	370 (37)

Application life @ 75°F (24°C), 50% RH, hours	1.5
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Performance properties (typical)

Cured 24 hours @ 75°F (24°C) and 40 hours @ 130°F (54°C)

Cured specific gravity	1.07
Nonvolatile content, %	99
Ultimate cure hardness, Durometer A	75
Modulus, psi (kg/cm ²)	
@ 100%	500 (35.15)
@ 300%	1000 (70.3)

Tensile strength, psi (MPa)	5000 (34.47)
Ultimate elongation, %	600
Tear strength (Die C), lbf/in	340
Lap shear strength, psi (kPa) Aluminum-Aluminum	1200 (8.274)
Fungus resistance (MIL-E-5272)	Non-nutrient
Volume resistivity, Ω-cm @ 75°F (24°C)	6 X 10 ¹¹
Surface resistivity, Ω @ 75°F (24°C)	1 X 10 ¹²
Insulation resistance, MΩ @ 75°F (24°C)	85,000
Cryogenic performance @ -320 °F (-196 °C)	
Tensile strength, psi (KPa)	23,000 (158.58)
Ultimate elongation, %	8
Modulus of elasticity, psi (MPa)	6.3 X 10 ⁵ (4343)
Lap Shear strength, psi (MPa) Metal-to-metal	5600 (38.61)

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.

Packing options

PR-1665 is supplied in two-part kits or pre-mixed and frozen Semco® cartridges.

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Mixing instructions

Part A crystallizes upon standing. Heat to 240 - 260°F (116 - 127°C) with good stirring until clear and homogeneous. Allow to cool before using. Part B may become turbid or crystallize upon standing. Liquify by warming to 120 - 140°F (41 - 60°C) with good stirring until clear and homogeneous. Allow to cool before using.

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

Storage life

The storage life of PR-1665 in a two-part kit is at least 9 months when stored at temperatures below 80°F (27°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 Safety Data Sheet (SDS), which provides information on health, physical and environmental hazards, handling precautions and first aid recommendations. An SDS 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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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.

This document has been reviewed by the PPG Aerospace and has been determined to contain only EAR99 data. (PENDING)

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