

**Advanced Materials****RenPaste<sup>®</sup> 4618-1 Resin  
Ren<sup>®</sup> 4618-1 Hardener****EPOXY SEAMLESS MODELING PASTE****Description**

RenPaste<sup>®</sup> 4618-1 resin/Ren<sup>®</sup> 4618-1 hardener epoxy seamless modelling paste is designed for building large, accurate models and plugs for the marine and aerospace industries. The paste is easy to dispense onto an undersized core in layers of 0.4 to 1.0 inch thick using meter/mix equipment. After curing for 48 hours at room temperature, RenPaste<sup>®</sup> 4618-1 resin/Ren<sup>®</sup> hardener epoxy seamless modeling paste can be CNC machined to a fine finish.

**Applications**

Production of models and plugs for the marine and aerospace industries.

**ADVANTAGES**

Fast build-up of marine and aerospace models and plugs  
Permits 1.5-inch (38mm) thickness layer in one application  
Exhibits low exotherm and shrinkage  
Is virtually odorless during application and milling  
Cures at room temperature; can be machined after 2 days  
Easy-to-machine; produces a fine, void-free, seamless surface  
Features a low density with good dimensional stability

**Typical Properties**

<u>Property</u>	<u>Test Method</u>	<u>Resin</u>	<u>Hardener</u>	<u>System</u>
Color	Visual	Light Gray	Off-white	Light Gray
Density, lbs./ft. <sup>3</sup> (g/cc)	ASTM D-792	56 (0.9)	56 (0.9)	56 (0.90)
Gel Time, 1.5 in. (38 mm) @ 77°F (25°C), minutes	ASTM D-2471	--	--	180 -- 240

<sup>1</sup>Tested @ 77°F (25°C)**Mix Ratio**

	<u>By Weight</u>	<u>By Volume</u>
RenPaste <sup>®</sup> 4618-1 Resin	100	100
RenPaste <sup>®</sup> 4618-1H Hardener	50	50

**Note**

These physical properties are reported as typical test values obtained by the Huntsman Advanced Materials laboratories. If assistance is needed in establishing product specifications, please consult with the Huntsman Advanced Materials Quality Control Department.

**Processing**

Before beginning, ensure that the undersized form is strong, stable, clean and free of loose material. Apply paste as a single layer up to 1.5 in. (38mm) in thickness using suitable meter/mix equipment.

**Cure Schedule**

Cure for 24 hours at 77°F (25°C)

**Typical Cured Properties**

(Not for specification purposes)

Tested at 77°F (25°C) unless otherwise noted.

<u>Property</u>	<u>Test Method</u>	<u>Test Values</u>
Density, lb./ft. <sup>3</sup> (g.cm <sup>3</sup> )	ASTM D-792	56 (0.90)
Hardness, Shore D	ASTM D-2240	76
Ultimate Flexural Strength, psi (MPa)	ASTM D-790	5,220 (36)
Deflection Temperature, °F (°C) at 264 psi (1.8 MPa)	ASTM D-648	122 (50)
Tg per DMA, E' onset, °F (°C)	ASTM D-4065	137 (58)
Tg per DMA, E' peak, °F (°C)	ASTM D-4065	159 (71)
Ultimate Compressive Strength, psi (MPa)	ASTM D-695	9,280 (64)
Coefficient of Thermal Expansion, -30°C to +30°C, in./in./°C	ASTM D-3386	30x10 <sup>-6</sup>
Linear Shrinkage, Mold #1**, in./in. (mm/mm)	Huntsman Method*	<0.001 (<1.0)

\* Test sample: 1.6 in. x 2 in. x 39 in. (41mm x 51mm x 99cm), free standing

**Storage and Shelf Life**

Epoxy resins and hardeners should be stored in a dry place in their original, sealed containers at temperatures from 60-100°F (16-38°C). Material temperatures should be above 65°F (18°C) when mixing. After use, tightly reseal containers. .

Under these conditions, RenPaste® 4618-1 resin and Ren® 4618-1 hardener will remain useable for 6 months from date of shipping from Huntsman.

**Caution:**

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material. Copies of the latest MSDS may be requested by calling our customer service group at 888-564-9318 or emailing your request to [advanced\\_materials@huntsman.com](mailto:advanced_materials@huntsman.com).

**First Aid!**

Eyes and skin: Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

**KEEP OUT OF REACH OF CHILDREN  
FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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