Technical Datasheet

HETRON™197-3 Resin

Performance Materials

Overview

HETRON 197-3 resin is a low viscosity, thixotropic, unpromoted, halogenated, flame retardant[1] polyester resin.

- Excellent corrosion resistance to acidic and other oxidizing environments
- High heat resistance - gases and vapors to 177°C (350°F)
- Excellent strength retention at elevated temperatures
- Good flame retardancy - Has met ASTM E-84 Class II (<75) rating with the addition of 5% antimony

[1] HETRON polyester resin will burn if provided with sufficient heat and oxygen. The degree of flame retardancy of the cured polyester resin is characterized by the ASTM E-84 tunnel test. This test is performed under strictly controlled conditions where a flame spread rating is assigned according to comparisons with test set-point materials. The behavior of the cured composite under these controlled conditions can vary from an actual fire situation

Applications and Use

Corrosion resistant reinforced thermosetting plastic equipment including filament wound and hand lay-up tanks, pipes, pumps, stacks, scrubbers, and other equipment handling highly corrosive gases, vapors, or liquids.

Recommendations for specific services and environments can be provided by contacting us at hetron@altapm.com

Typical Liquid Resin Properties

Property at 25°C (77°F) unless otherwise marked	Value	Unit
Viscosity, Brookfield, #2 spindle at 50 rpm	500	Cps (MPa-s)
Viscosity, Brookfield, #2 spindle at 5 rpm	1500	Cps (MPa-s)
Solids	57.5	%
Specific Gravity	1.14	gm/cc

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Typical Curing Characteristics

Temperature and Catalyst (phr)	Co-nap6% (phr)	DMA (phr)	Geltime (minutes)
18°C(65°F) with 1.25 phr MEKP	0.5	0.10	10-20
	0.4	0.10	20-30
	0.4	0.05	30-40
24°C(75°F) with 1.25 phr MEKP	0.4	0.05	10-20
	0.4	0.0	20-30
	0.3	0.0	30-40
29°C(85°F) with 1.25 phr MEKP	0.4	0.05	10-20
	0.3	0.0	20-30
	0.2	0.05	30-40
29°C(85°F) with 2.0 phr ATC Paste	0.0	0.20	20-30
	0.0	0.10	40-50

All levels are based on parts per hundred resin (phr).
Caution: Thoroughly mix promoters with resin before adding catalyst.

Typical Mechanical Properties

Property of a cured casting at 77°F	Value (SI)	Value (US)	Method
Barcol Hardness	40	40	ASTM D2583
Tensile Strength	38 MPa	5500 psi	ASTM D638
Tensile Modulus	3520 MPa	510 ksi	ASTM D638
Tensile Elongation	1.1%	1.1%	ASTM D638
Flexural Strength	69 MPa	10,000 psi	ASTM D790
Flexural Modulus	3790 MPa	550 ksi	ASTM D790
Compressive Strength	200 MPa	29,2300 psi	ASTM D695
Compressive Modulus	3520 MPa	510 ksi	ASTM D695
Compressive Deformation at Yield	8.0%	8.0%	ASTM D695
Izod Impact	108 J/m	2.0 ft-lb/in	ASTM D256
Heat Distortion Temperature	140°C	284°F	ASTM D648

Catalyzed with 1% BPO, cured two hours at 160°F, one hour at 200°F, then post cured for two hours at 280°F.

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Standard package
Steel drum with net weight of 230 kgs (507 lbs)

Commercial Warranty
Three months from the date of shipment, when stored in accordance with the storage conditions stated below.

Storage
All other conditions being equal, higher storage temperatures will reduce product stability and lower storage temperatures will extend product stability. Store at temperatures below 25°C / 77°F. Avoid exposure of storage tanks and storage containers to heat such as direct sunlight, steam pipes, and other heating sources.

Containers: Keep containers sealed to prevent moisture pick-up and monomer loss. Do not store drums and other small containers outdoors. Mild mixing is recommended after prolonged storage. Rotate stock.

Bulk Storage: Consult with your ALTA Performance Materials account representative for a guide to best practices on bulk resin storage and handling.

Notice
All information presented herein is believed to be accurate and reliable, and is solely for the user's consideration, investigation, and verification. The information is not to be taken as an express or implied representation or warranty for which ALTA Performance Materials assumes legal responsibility. Any warranties, including warranties of merchantability, fitness for use or non-infringement of intellectual property rights of third parties, are herewith expressly excluded.

Since the user's product formulations, specific use applications and conditions of use are beyond the control of ALTA Performance Materials, ALTA Performance Materials makes no warranty or representation regarding the results which may be obtained by the user. It shall be the sole responsibility of the user to determine the suitability of any of the products mentioned for the user's specific application.

ALTA Performance Materials requests that the user reads, understands, and complies with the information contained herein and the current Safety Data Sheet.

Commercial contacts by region available at:

https://altapm.com/contact/

[i]All properties are typical values. Results may vary. Typical values are not a guaranteed analysis of any specific lot or specification.
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