

Technical Datasheet

Ashland Performance Materials



HETRON™ 922 L-25 Epoxy Vinyl Ester Resin

HETRON 922L-25 resin is a low viscosity, promoted vinyl ester. The raw materials used in the manufacture of this resin are listed as acceptable in FDA regulation Title 21 CFR 177.2420 for repeated use in contact with food subject to user's compliance with the prescribed limitations of that regulation. HETRON 922L-25 resin gives final products with:

- Excellent corrosion resistance
- Excellent impact strength
- High tensile elongation
- "FDA" applications

APPLICATIONS AND USE

HETRON 922L-25 resin can be used for hand lay-up and spray-up, filament winding, flake glass, and filled lining and coating compounds. HETRON 922L resin is the unpromoted version. HETRON FR992 resin is an unpromoted, flame retardant version.

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

TYPICAL LIQUID RESIN PROPERTIES

Property ⁽¹⁾ at 25°C (77°F)	Value	Unit
Solids	52	%
Viscosity, Brookfield #2 spindle @ 30 rpm	275	mPas (cps)
Specific Gravity	1.03	gm/cc
Appearance	cobalt promoted	

(1) Properties are typical values based on material tested in our laboratories. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

TYPICAL CURING CHARACTERISTICS

Typical curing characteristics⁽¹⁾ are measured using 100 phr resin with various levels of catalyst.

HiPoint 90 ⁽²⁾ catalyst (phr)	Temperature	Gel Time, minutes
1.00	15-21°C (60-70°F)	65-75
1.25	15-21°C (60-70°F)	50-60
1.50	15-21°C (60-70°F)	40-50



Responsible Care*

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1.00	21-27°C (70-80°F)	25-35
1.25	21-27°C (70-80°F)	20-30
1.50	21-27°C (70-80°F)	15-25
1.00	27-32°C (80-90°F)	20-30
1.25	27-32°C (80-90°F)	15-25
1.50	27-32°C (80-90°F)	10-20

(2) Registered trademark of Crompton Corporation

TYPICAL MECHANICAL PROPERTIES

Property ⁽¹⁾ of cured casting ⁽³⁾ at 25°C (77°F)	Value (SI)	Value (US)	Method
Barcol Hardness	35	35	ASTM D2583
Tensile Strength	82 MPa	12,000 psi	ASTM D638
Tensile Modulus	3720 MPa	5.4 psi x 10 ⁵	ASTM D638
Tensile Elongation at Yield	4.6%	4.6%	ASTM D638
Tensile Elongation at Break	7.9%	7.9%	ASTM D638
Flexural Strength	131 MPa	19,000 psi	ASTM D790
Flexural Modulus	3450 MPa	5.0 psi x 10 ⁵	ASTM D790
Heat Distortion Temperature	98°C	209°F	ASTM D648

(3) Catalyzed with 1.25% LUPERSOL⁽⁴⁾ DDM-9 catalyst, cured at room temperature for 24 hours and postcured for 2 hours at 138°C (280°F).

(4) Registered trademark of Atofina Chemicals, Inc.



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Physical properties of laminates at various thicknesses and temperatures.

Laminate thickness (mm)	Temp. (°C)	Ten Str (MPa)	Ten Mod (MPa)	Flex Str (MPa)	Flex Mod (MPa)
3.18 (1 veil, 2 mats; 25% glass)	25	92	6830	140	5240
	93	142	9520	211	8690
	121	183	11,860	208	7170
	149	144	8480	156	6000
6.35 (1 veil, 5 mats, 2 W.R.; 39% glass)	25	72	5240	35	900
	93	159	11,930	180	8070
	121	148	15,310	210	8000
	149	125	6830	54	2410
12.7 (1 veil, 8 mats, 4 W.R.; 42% glass)	25	59	5240	23	1380
	93	23,100	17.3	26,100	11.7
	121	21,400	22.2	30,400	11.6
	149	18,100	9.9	7800	3.5

Laminate Thickness (in.)	Temp. (°F)	Ten Str (psi)	Ten Mod (psi x 10 ⁵)	lex Str (psi)	Flex Mod (psi x 10 ⁵)
0.125 (1 veil, 2 mats; 25% glass)	77	13,300	9.9	20,300	7.6
	200	20,600	13.8	30,600	12.6
	250	26,500	17.2	30,200	10.4
	300	20,900	12.3	22,600	8.7
0.25 (1 veil, 5 mats, 2 W.R.; 39% glass)	77	10,400	7.7	5100	1.3
	200	23,100	17.3	26,100	11.7
	250	21,400	22.2	30,400	11.6
	300	18,100	9.9	7800	3.5
0.50 (1 veil, 8 mats, 4 W.R.; 42% glass)	77	8600	7.6	3300	2.0
	200	23,100	17.3	26,100	11.7
	250	21,400	22.2	30,400	11.6
	300	18,100	9.9	7800	3.5



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CERTIFICATES AND APPROVALS The manufacturing, quality control and distribution of products, by Ashland Performance Materials, comply with one or more of the following programs or standards: Responsible Care, ISO 9001, ISO 14001 and OHSAS 18001.

STANDARD PACKAGE Non-Returnable Drum with Net Weight of 205 Kgs (452 Lbs)
DOT Label Requirement: Flammable Liquid

COMMERCIAL WARRANTY Three months from date of shipment, when stored in accordance with the conditions stated below.

STORAGE Drums - Store at temperatures below 25°C (77°F). Storage life decreases with increasing storage temperature. Avoid exposure to heat sources such as direct sunlight or steam pipes. To avoid contamination of product with water, do not store outdoors. Keep containers sealed to prevent moisture pick-up and monomer loss. Mild mixing is recommended after prolonged storage. Rotate stock.

Bulk - See Ashland's Bulk Storage and Handling Manual for Polyesters and Vinyl Esters. A copy of this may be obtained from Ashland Performance Materials at +1.614.790.3333 or 800.523.6963.

All other conditions being equal, higher storage temperatures will reduce product stability and lower storage temperatures will extend product stability.

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 Ashland 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 Ashland, Ashland 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.

Ashland requests that the user reads, understands and complies with the information contained herein and the current Material Safety Data Sheet.



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