ASHLAND

Composite Polymers • Ashland Specialty Chemical • Division of Ashland
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TECHNICAL DATA

HETRON®

HETRON® 922L
Epoxy Vinyl Ester Resin

JUNE 2006

CORROSION RESISTANT, EPOXY VINYL ESTER RESIN

DESCRIPTION:

HETRON® 922L resin is a lower viscosity version of HETRON 922 unpromoted epoxy vinyl ester resin. The raw materials used in the manufacture of this resin are listed as acceptable in FDA regulatory Title 21 CFR 177.2420 for repeated use in contact with food subject to user's compliance with the prescribed limitations of that regulation.

PERFORMANCE:

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

SUGGESTED USES:

HETRON 922L resin can be used for hand lay-up and spray-up, filament winding, flake glass and filled lining and coating compounds.

ALTERNATIVE PRODUCTS:

HETRON 922 resin is used when standard hand lay-up viscosity is required. HETRON 942/35 epoxy vinyl ester resin should be used when higher temperatures and greater resistance to organic solvents is needed.

TYPICAL * LIQUID PROPERTIES AT 77°F (25°C)

Percent Solids	**52**
Viscosity - Brookfield, cps	**275**
Flash Point Range, °F	**73-100**
Pounds Per Gallon	**8.6**
Color, Gardner	**< 4**

** Typical Values: Based on material tested in our laboratories but varies from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.*

STANDARD PACKAGE: **55-gallon drum, Non-Returnable, Net Wt. 452 lbs. (205 Kg's)**
DOT LABEL REQUIRED: **Flammable Liquid**
CODE: **566-642**

TYPICAL * PERFORMANCE DATA

(for guidance only)

% Promoters 6% Cobalt Naphthenate	DMA	1.25% LUPERSOL[1] DDM-9 Catalyst	Temperature, °F	Gel Time, Minutes
0.30	0.075	1.25	60-70	10-20
0.30	0.025	1.25	70-80	10-20
0.30	0.010	1.25	80-90	10-20
0.30	0.025	1.25	60-70	20-30
0.10	--	1.25	70-80	20-30
0.05	--	1.25	80-90	20-30
0.30	0.010	1.25	60-70	30-40
0.05	--	1.25	70-80	30-40
0.025	--	1.25	80-90	30-40

DMA Promoter, %	LUPERCO[1] ATC Paste Catalyst, %	Temperature, °F	Gel Time, Minutes
0.25	2.0	77	10-15
0.15	2.0	77	20-25
0.10	2.0	77	30-35

CAUTION: Thoroughly mix promoters with resin before adding catalyst.

TYPICAL* MECHANICAL PROPERTIES

TYPICAL PHYSICAL PROPERTIES OF CURED CASTINGS [2]AT 77°F (25°C):

TEST	VALUE	TEST METHOD
Barcol Hardness	35	ASTM D-2583
Tensile Strength, psi	12,000	ASTM D-638
Tensile Modulus, psi x 10^5	5.4	ASTM D-638
Tensile Elongation At Yield, %	4.6	ASTM D-638
Tensile Elongation At Break, %	7.9	ASTM D-638
Flexural Strength, psi	19,000	ASTM D-790
Flexural Modulus, psi x 10^5	5.0	ASTM D-790
Heat Distortion Temperature °C (°F)	98 (209)	ASTM D-648

[1]Registered trademark of Elf Atochem America, Inc.

[2]Catalyzed with 1% BPO, cured two hours at 160°F, then one hour at 200°F, postcured two hours at 280°F

HETRON® 922L Resin Series (Page 3 of 3)

Laminate Thickness	Temperature, °F	Tensile Strength, psi	Tensile Modulus, psi x 10^6	Flexural Strength, psi	Flexural Modulus, psi x 10^6
.125"	77	13,300	.99	20,300	.76
(1 Veil, 2 Mats)	200	12,200	.78	21,700	.66
25% Glass	250	6,800	.46	11,400	.22
	300	3,000	.24	5,000	.46
.25"	77	20,600	1.38	30,600	1.26
(1 Veil, 5 Mats, 2 W.R.)	200	26,500	1.72	30,200	1.04
39% Glass	250	20,900	1.23	22,600	.87
	300	10,400	0.76	5,100	.13
.50"	77	23,100	1.73	26,100	1.17
(1 Veil, 8 Mats, 4 W.R.)	200	21,400	2.22	30,400	1.16
42% Glass	250	18,100	0.99	7,800	.35
	300	8,600	0.76	3,300	.20

HANDLING: HETRON 922L resin contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn.

Ashland Chemical Company maintains Material Safety Data Sheets on all of its products. Material Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers.

Our Material Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Ashland Chemical Company's products in your facilities.

RECOMMENDED STORAGE:
Drums - Store at temperatures below 80°F. Storage life decreases with increasing storage temperature. Avoid exposure to heat sources such as direct sunlight or steam pipes. For monomer-containing resins, keep sealed to prevent moisture pick-up and monomer loss. Rotate stock.

Bulk - See Ashland Chemical's Bulk Storage and Handling Manual for Polyesters and Vinyl Esters. A copy of this may be obtained from Ashland Chemical's Composite Polymers Division at (614) 790-3333.

COMMERCIAL WARRANTY: When stored in accordance with the above conditions, Ashland warrants this product to remain within specifications for three months from date of shipment. All things being equal, higher storage temperatures will reduce product stability and lower storage temperatures will extend product stability.