Technical Datasheet

INEOS Composites

HETRON™ D 1222 Epoxy Vinyl Ester Resin

HETRON D 1222 epoxy vinyl ester resin is a medium viscosity, unpromoted, highly crosslinked resin designed for optimum pultrusion processing including high line speeds, good hot strength properties, diminished scuffing and controllable exotherm. Composites made with HETRON D 1222 epoxy vinyl ester resin exhibit excellent retention of physical properties at elevated temperatures and superior toughness.

APPLICATIONS AND USE

HETRON D 1222 resin can be used for pultrusion, flake glass filled linings and coating compounds.

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

TYPICAL LIQUID RESIN PROPERTIES

Property(1) at 25°C (77°F)	Value	Unit
Percent Solids	61.5	%
Viscosity, Brookfield #2 spindle @ 30 rpm	600	mPas (cps)
Specific Gravity	1.07	gm/cc
Color	<4	Gardner
Acid Value (solids)	17 maximum	
Monomer	styrene	

(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.

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TYPICAL CURING CHARACTERISTICS

SPI Gel Time	Value	Unit
Gel Time, 1.0% Benzoyl Peroxide Catalyst	8	minutes
Total Time	10.5	minutes
Peak Exotherm	227 (440)	°C (°F)

TYPICAL MECHANICAL PROPERTIES

Property(1) of cured casting(2) at 25°C (77°F)	Value (SI)	Value (US)	Method
Barcol Hardness	40	40	ASTM D2583
Tensile Strength	79 MPa	11,500 psi	ASTM D638
Tensile Modulus	3240 MPa	4.7 psi x 10^5	ASTM D638
Tensile Elongation	3.9%	3.9%	ASTM D638
Flexural Strength	114 MPa	16,500 psi	ASTM D790
Flexural Modulus	3650 MPa	5.3 psi x 10^5	ASTM D790
Compressive Strength	200 MPa	29,200 psi	ASTM D695
Compressive Modulus	3310 MPa	480 ksi	ASTM D695
Deformation at Yield	7.9%	7.9%	ASTM D695
Izod Impact	173 J/m	3.2 ft-lb/in.	ASTM D256
Heat Distortion Temperature	141°C	286°F	ASTM D648

(2) Catalyzed with 1% BPO, cured two hours at 71°C (160°F), then one hour at 93°C (200°F), postcured two hours at 138°C (280°F).

CERTIFICATES AND APPROVALS

The manufacturing, quality control and distribution of products, by INEOS Composites, comply with one or more of the following programs or standards: ISO 9001, ISO 14001 and OHSAS 18001.

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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 INEOS Composites's Bulk Storage and Handling Manual for Polyesters and Vinyl Esters. A copy of this may be obtained from INEOS Composites 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 INEOS Composites 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 INEOS Composites, INEOS Composites 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. INEOS Composites requests that the user reads, understands and complies with the information contained herein and the current Material Safety Data Sheet.

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