Technical Datasheet

INEOS Composites

AROPOL™ FX 9600 Flexible Blending Resin

Description

AROPOL FX 9600 resin is a superior flexible polyester resin with low water absorption and high tensile elongation and impact resistance.

AROPOL FX 9600 resin can be used as a blending resin in molding or casting processes to improve impact or flexing properties of conventional materials.

Note: This product was previously sold as Aropol MR 9600 resin.

Special Applications

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 the user's compliance with the prescribed limitations of that regulation.

Typical Liquid Resin Properties

Property(1) at 25°C (77°F)	Value	Unit
Percent Solids	63.5	%
Viscosity, Brookfield, #2 spindle @ 20 rpm	950	mPas (cps)
Color	150	APHA
Acid Value (solution)	10.5	
Specific Gravity	1.12	gm/cc

(1)Properties are typical values band not an analysis of any specific lot.

Typical Curing Characteristics

SPI Gel Time - 82°C (180°F) Bath, 1% BPO	Value	Unit
Gel Time	7	minutes
Gel to Peak Time	5	minutes
Peak Exotherm Temperature	138 (280)	°C (°F)

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Typical Mechanical Properties

Property of 3.175 mm (0.125 in) cured casting	Value (SI)	Value (US)
Ultimate Tensile Strength	9.4 MPa	1360 psi
Ultimate Elongation	65.0%	65.0%
Water Absorption, 24 hours	0.40%	0.40%
Dielectric Strength		
Short Time Test @ 25°C (77°F)	285 volts/mil	285 volts/mil
@ 100°C (212°F)	199 volts/mil	199 volts/mil
Step-by-Step Test @ 25°C (77°F)	276 volts/mil	276 volts/mil
@ 100°C (212°F)	160 volts/mil	160 volts/mil
Dielectric Constant @ 60 cycles	5.15	5.15
@ 10^6 cycles	3.70	3.70
Power Factor @ 60 cycles	0.044	0.044
@ 10^6 cycles	0.0426	0.0426

Property of 3.175 mm (0.125 in) laminate(2)	Value (SI)	Value (US)
AROPOL FX 9600 Resin	100 parts	100 parts
Resin Content	58.5%	58.5%
Specific Gravity	1.48	1.48
Water Absorption, 24 hours	0.23%	0.23%
Ultimate Tensile Strength	77.9 MPa	11,300 psi
Tensile Elongation	2.5%	2.5%
Ultimate Flexural Strength	44.1 MPa	6400 psi
Ultimate Flexural Strength @ 71°C (160°F)	20.7 MPa	3000 psi
Ultimate Flexural Strength after 2 hour boil	31.7 MPa	4600 psi
Modulus of Elasticity	1655 MPa	0.24 x 10^6 psi
Modulus of Elasticity @ 71°C (160°F)	965 MPa	0.14 x 10^6 psi
Modulus of Elasticity after 2 hour boil	8549 MPa	1.24 x 10^6 psi

Property of 3.175 mm (0.125 in) laminate(2)	Value (SI)	Value (US)
AROPOL FX 9600 Resin	20 parts	20 parts
AROPOL MR 941 Resin	80 parts	80 parts

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Resin Content	60.6%	60.6%
Specific Gravity	1.48	1.48
Barcol Hardness	41	41
Water Absorption, 24 hours	0.26	0.26
Ultimate Compressive Strength	168 MPa	24,300 psi
Ultimate Tensile Strength	139 MPa	20,200 psi
Tensile Elongation	1.9%	1.9%
Ultimate Flexural Strength	223 MPa	32,300 psi
Ultimate Flexural Strength @ 71°C (160°F)	115 MPa	16,600 psi
Ultimate Flexural Strength after 2 hour boil	130 MPa	18,900 psi
Modulus of Elasticity	8274 MPa	1.2 x 10^6 psi
Modulus of Elasticity @ 71°C (160°F)	4206 MPa	0.61 x 10^6 psi
Modulus of Elasticity after 2 hour boil	5792 MPa	0.84 x 10^6 psi

(2) 3 plies 600 g/m^2 (2 oz/ft^2) chrome finished glass mat, cured 3 minutes at 112°C (234°F) between cauls at a pressure of 0-0.1 MPa (0-15 psi).

Standard Package

Steel Drum with Net Weight of 220 Kg (485 Lbs)

Commercial Warranty

Three months from date of shipment, when stored in accordance with the storage 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 Guide 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

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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.

More Information

INEOS Composites
5220 Blazer Parkway
Dublin, OH, 43017

Tel: +1 614 790 9299
Email: Americascustomer.composites @INEOS.com

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