Technical Datasheet

INEOS Composites

AROPOL™ 7334 T Series Isophthalic Polyester Resins

Description

AROPOL 7334 T series resins are low viscosity, promoted, thixotropic, resilient polyester resins. The resins provide:

- Good corrosion resistance to 66°C (150°F)
- High impact strength
- Excellent crack and craze resistance
- High tensile elongation
- Excellent wet-out

Applications and Use

AROPOL 7334T series resins can be used for filament winding, hand lay-up, and spray-up. AROPOL 7334 resin is the non-promoted, non-thixotropic version.

The raw materials used in the manufacture of these 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.

Typical Liquid Resin Properties

Property(1) at 25°C (77°F)	Value	Unit
Viscosity, Brookfield, #3 spindle @ 60 rpm	450	mPas (cps)
Thix Index	2.5	units
Percent Solids	54	%
Specific Gravity	1.09	

Multiple gel time versions are available, including:
Aropol 7334 T-15
Aropol 7334 T-25
Aropol 7334 T-30
Aropol 7334 T-40

Total cure time is generally twice as long as the initial gel time when initiated with 1.25% DDM-9 at 77°F.

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Typical Curing Characteristics of AROPOL 7334 T-15

The following table shows the amount of DDM-9 catalyst required (in grams per 100 grams of resin) to achieve a desired gel time at several different ambient temperature ranges.

	55 - 65°F	65 - 75°F	75 - 85°F	85 - 95°F
5 - 10 minutes				1.0
10 - 15 minutes		2.5	1.5	1.25
15 - 20 minutes	2.5	1.5	1.25	
20 - 25 minutes	2.0	1.25	0.90	
25 - 30 minutes	1.5	1.0		
30 - 35 minutes	1.35			

Typical Curing Characteristics of AROPOL 7334 T-30

The following table shows the amount of DDM-9 catalyst required (in grams per 100 grams of resin) to achieve a desired gel time at several different ambient temperature ranges.

	55 - 65°F	65 - 75°F	75 - 85°F	85 - 95°F
5 - 10 minutes				2.5
10 - 15 minutes			2.25	1.75
15 - 20 minutes		2.5	1.75	1.5
20 - 25 minutes		2.0	1.5	1.4
25 - 30 minutes	2.5	1.75	1.3	1.25
30 - 35 minutes	2.25	1.5	1.2	

(1) Properties are typical values and not a guaranteed analysis of any specific lot or specification items.
(2) Registered trademark of Atofina Chemicals, Inc.
(3) phr = parts per hundred resin

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Typical Mechanical Properties

Property[1] of clear casting[4] at 25°C (77°F)	Value (SI)	Value (US)	Method
Tensile Strength	80 MPa	11,300 psi	ASTM D638
Tensile Modulus	3930 MPa	570 kpsi	ASTM D638
Tensile Elongation	4.4%	4.4%	ASTM D638
Flexural Strength	120 MPa	18,000 psi	ASTM D790
Flexural Modulus	3520 MPa	510 kpsi	ASTM D790
Heat Distortion Temperature	92°C	197°F	ASTM D648
Barcol Hardness	40	40	ASTM D2538

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

Standard Package

Steel drum with net weight of 485 pounds (220 KG).

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 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.

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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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