Technical Datasheet

INEOS Composites

AROPOL™ M 105 TA Low Styrene Emission Resin

AROPOL M 105 TA is a thixotropic, pre-accelerated, ortophthalic acid based polyester resin with short geltime.

When applying AROPOL M 105 TA resin, emission is reduced by up to 50% compared to standard resin. Emission is only 2-5% of polyester resin used compared to 5-10% of standard polyester resins. Excellent glass fiber wet out properties and easiness of application is characteristic for AROPOL M 105 TA.

Typical liquid resin properties

Property at 23 C	Typical value	Unit	Method
Viscosity, Brookfield RV2, 10 rpm	1400	mPas	ISO 2555
Viscosity, cone&plate	180	mPas	ISO 2884
Styrene content	41	%	ASTM D 1644
Density	1,1	kg/dm3	ISO 2811
Geltime, 1% MEKP-50	20	min	Hc-04a
Peak exotherm	110	°C	Hc-04a

Typical cured resin properties

Property	Value	Unit	Method
Tensile strength	45	MPa	ISO 527
Tensile modulus	3600	MPa	ISO 527
Elongation at break	2,0	%	ISO 527
Flexural strength	90	MPa	ISO 178
Flexural modulus	4100	MPa	ISO 178
Heat deflection temperature (HDT)	66	C	ISO 75/2 (A)
Hardness	45	Barcol	ASTM D2583
Water absorption, 24 hours	19	mg/sample*	ISO 62-80
Water absorption, 28 days	92	mg/sample*	ISO 62-80

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* 50x50x4 mm*

Application and use

AROPOL M 105 TA resin is suitable for spray-up, hand lay-up and filament winding methods for manufacturing numerous FRP products for the marine, building and construction and transportation markets.

Curing charcteristics of AROPOL M 105 TA allow building laminates of thickness 1-5 mm wet on wet.

Certificates and approvals

AROPOL M 105 TA resin is approved by Lloyd's Register and complies with the requirements of ISO 12215-1 standard for construction of small crafts.

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

Additional information

MEK-peroxide influence on geltime	1.0% MEKP	1.25% MEKP	1.5% MEKP
M 105 TA	20 min	17 min	14 min
M 105 TAR	25 min	20 min	17 min
M 105 TB	40 min	32 min	25 min
M 105 TBR	45 min	35 min	28 min
M 105 TC	60 min	48 min	38 min
M 105 TCR	60 min	48 min	38 min

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Handling and storage

It is highly recommended that all material is stored at stable temperatures under 20°C preferably indoors, and away from direct sunlight. Prolonged storage outside of recommended conditions can influence liquid resin properties like viscosity and gel time. It is also strongly recommended to mix resin thoroughly before use. Shelf life of AROPOL M 105 TA is six (6) months.

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.