Technical Data Sheet

Farapol Jam Chemical Indus. Co.

FARAPOL O 139

Product Description

Farapol O 139 is an Unsaturated Polyester Resin based on Neopentyl Glycol and Orthophthalic anhydride, dissolved in and cross-linked with Styrene Monomer. It is medium reactive, non-accelerated and non-thixotropic resin. This resin can be supplied pre-accelerated, with a special type of colorless Cobalt Octoate.

Applications and Use

Farapol O 139 is specially designed for filled resin casting, artificial marble and composite stone. The resin has a good toughness and moderate shrinkage and it is suitable for some fillers such as Calcium Carbonate and ATH (Aluminum Tri-hydroxide) powder used in artificial stone products that is easy to grind and cut.

Certificates and Approvals

Farapol O 139 is synthesized from raw materials listed in FDA regulation Title 21 CFR 177.2420. Farapol Jam Chemical Industrial Company carries out this resin's production, quality control, and distribution in compliance with ISO 9001, 14001, 45001, 10002, 10004, 10015, and 17065 standards.

Typical Liquid Resin Properties

Property @ 25 ºC	*Unit*	*Specification*	*Method*
Viscosity Brookfield[1]	cps	500 - 600	ISO 2555
Acid Value	mgKOH/g	Max 30	ASTM D 1639
Solid Content	%	61 - 64	ISO 3251
Color	Gardner	Max 1	ASTM D 1544
Specific Gravity	relative	1.11	ISO 2811
Gel Time[1]	minute	6-11	ASTM D 2471
Exothermic Peak Temperature	ºC	160-190	ASTM D 2471

1) Gel Time and Viscosity can be adjusted as per customer requirements.

Gel Time Behavior of Resin[2]

Temperature (ºC)	*18*	*25*	*30*
Gel Time (minute)	11-17	6-11	4-7

2) Mix ratio for measuring Gel Time: (Cobalt Octoate Farapol C 901 1%- 1.0 phr, Akperox A60 1.0 phr).

Typical Casted Resin Properties[3]

Property	*Unit*	*Specification*	*Method*
Tensile Strength	MPa	Min 70	ISO 3268, ASTM D638, ISO 527-2&4
Elongation at Break	%	Min 3.0	ISO 3268, ASTM D638, ISO 527-2&4
Tensile Modulus	GPa	Min 3.0	ISO 3268, ASTM D638, ISO 527-2&4
Flexural Strength	MPa	Min 120	ISO 178/ASTM D 790
Flexural Modulus	GPa	Min 3.4	ISO 178/ASTM D 790
Heat Deflection Temperature (HDT)	^{0}C	Min 75	ISO 75-2 Test Method A
Barcol Hardness	Barcol	Min 40	ASTM D 2583
Water Absorption	%	Max 0.3	ISO 62- Test Method 3
Linear Shrinkage[4]	%	≈ 1.8	Internal method
Overall Shrinkage	%	Max 7.0	DIN 16945

3) Materials used for curing are: (Cobalt Octoate Farapol C 901 1%- 1.0 phr, Akperox A60 1.0 phr). Curing Time is 24 hrs at Room Temperature and 3 hrs at 80 ºC.
4) This test has been done on the specimen with linear dimensions (1 cm × 1 cm × 100 cm).

Handling, Storage and Stability

FARAPOL O 139 is a product that is sensitive to temperature, light, and oxidation. Hence, it should be stored indoors in a dry place at a temperature between 5 and 25°C. Keep always in the original, unopened, and undamaged containers. Avoid keeping material exposed to sunlight. On storage under the above-mentioned conditions, the shelf life for FARAPOL O 139 is 6 months**.** It is noticed that per-accelerated Farapol O 139-CC is a 3-month shelf life.

Healthy and Safety

Avoid storing the resin along with Metallic Driers and Peroxides in the same area. Safety Datasheets of the product are available on demand. The user is fully responsible for reviewing the material's Safety Data Sheet (SDS) and understanding proper handling procedures prior to using the product.

Packaging

FARAPOL O 139 is supplied in 200 Kg steel barrels, IBC tanks and bulk road tankers.

Notice

The information contained herein is provided in good faith and is with the best of our accurate knowledge, but we assume no liability for its accuracy or completeness. Therefore, the buyer is advised to determine the suitability of this product for the intended use. We retain the right to make any changes according to technological progress or further developments. Please note that variations in testing conditions across different laboratories may result in discrepancies, and a tolerance of up to 5% in test results should be expected.
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