

Technical Data Sheet

Farapol Jam Chemical Indus. Co.

FARAPOL V 304

Product Description Farapol V 304 Brominated Bisphenol-A Epoxy Vinyl Ester Resin is designed to offer maximum fire retardance and provide exceptional mechanical properties at higher temperatures. This resin offers a high resistance to solvents and chemicals, good retention of strength and toughness at elevated temperatures. Since flame resistance without additives is one of the properties of this resin, mechanical properties and toughness will not decrease in the final product.

Applications and Use Farapol V 304 resin is the preferred choice when the highest fire and chemical resistance is required. The resin can be widely used in filament winding, hand lay-up, spray-up, pultrusion processes and marine applications.

Certificates and Approvals Farapol Jam Chemical Industrial Company carries out the production, quality control, and distribution of this resin in compliance with ISO 9001, 14001, 45001, 10002, 10004, 10015, and 17065 standards.

Typical Liquid Resin Properties

<i>Property @ 25 °C</i>	<i>Unit</i>	<i>Specification</i>	<i>Method</i>
Viscosity Brookfield ¹	cps	400 - 500	ISO 2555
Acid Value	mgKOH/g	Max 5	ASTM D 1639
Solid Content	%	61 - 64	ISO 3251
Color	Gardner	Max 3	ASTM D 1544
Specific Gravity	relative	1.17	ISO 2811
Gel Time ¹	minute	20 - 25	ASTM D 2471
Exothermic Peak Temperature	°C	150-180	ASTM D 2471

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

Gel Time Behavior of Resin²

<i>Temperature (°C)</i>	<i>18</i>	<i>25</i>	<i>30</i>
<i>Gel Time (minute)</i>	28-32	20-25	13-16

2) Mix ratio for measuring Gel Time: 1.6 phr Cobalt Octoate (1.0%), 0.8 phr DMA (10%) - Catalyst: 1.4 phr Akperox (A60)

Flame Test Result on Clear Cast Mold

<i>Test Method</i>	<i>Result- Class</i>	<i>Standard</i>
Limited Oxygen Index (LOI)	24.5	ASTM D 2863
Horizontal	Class-0	UL 94/ ASTM D 635
Vertical	V-0	UL 94/ ASTM D 5048

Typical Casted Resin Properties³

<i>Property</i>	<i>Unit</i>	<i>Specification</i>	<i>Method</i>
Tensile Strength	MPa	Min 75	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 3.5	ISO 178/ASTM D 790
Glass Transition Temperature (tg)	°C	Min 110	ASTM E 1640
Heat Deflection Temperature (HDT)	°C	Min 100	ISO 75/ASTM D 648
Barcol Hardness	Barcol	Min 40	ASTM D 2583
Water Absorption	%	Max 0.20	ISO 62- Test Method 3
Linear Shrinkage ⁴	%	Max 1.3	Internal method

- 3) 1.6 phr Cobalt Octoate (1.0%) & 0.8 phr DMA (10%) - Catalyst: 1.4 phr Akperox (A60). Curing Time is 24 hrs at Room Temperature 2 hours at 80°C & 1 hr at 120°C, for HDT specimens 2 hrs at 140°C.
- 4) This test has been done on the specimen with linear dimensions (1 cm × 1 cm × 100 cm).

Handling, Storage and Stability

FARAPOL V 304 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 conditions mentioned above, the shelf life for FARAPOL V 304 is 3 months.

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 V 304 is supplied in 200 Kg steel barrels and IBC tanks.

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.

Farapol Jam Company reserves the right to modify the information in this document at its discretion. The latest version available on the Farapol website is considered valid, and any previous versions are void.

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