

## Technical Data Sheet

Farapol Jam Chemical Indus. Co.

### FARAPOL V 305

**Product Description** FARAPOL V 305 Bisphenol A based Epoxy Vinyl Ester Resin is a lower styrene content resin designed to 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, and excellent resistance to acidic oxidizing environments. The heat distortion temperature (HDT) of FARAPOL V 305 resin is 20 -25°C higher than the HDT of FARAPOL V 301.

**Applications and Use** This resin is designed for manufacturing of tanks, containers and pipes. FARAPOL V 305 can be used in composite production processes including filament winding, pultrusion, hand lay-up and spray-up processes where outstanding mechanical properties, excellent resistance to chemicals and heat are required. FARAPOL V 305 is suitable for on-site maintenance projects, particularly in chemical processing.

**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. If the resin is properly formulated and cured, it can meet US FDA regulations 21 CFR 177.2420.

#### Typical Liquid Resin Properties

<i>Property @ 25 °C</i>	<i>Unit</i>	<i>Specification</i>	<i>Method</i>
Viscosity Brookfield <sup>1</sup>	cps	400 - 500	ISO 2555
Acid Value	mgKOH/g	Max 30	ASTM D 1639
Solid Content	%	65 - 68	ISO 3251
Color	Gardner	Max 2	ASTM D 1544
Specific Gravity	relative	1.10-1.11	ISO 2811
Gel Time <sup>1</sup>	minute	17 - 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 Resin<sup>2</sup>

<i>Temperature (°C)</i>	<i>18</i>	<i>25</i>	<i>30</i>
<i>Gel Time (minute)</i>	27-30	17-25	15-17

2) Mix ratio for measuring Gel Time: 1.0 phr Cobalt (1.0%), 0.5 phr DMA (10%) - Catalyst: 1.0 phr Akperox (A60)

### Typical Casted Resin Properties<sup>3</sup>

<i>Property</i>	<i>Unit</i>	<i>Specification</i>	<i>Method</i>
Tensile Strength	MPa	80-90	ISO 3268, ASTM D638, ISO 527-2&4
Elongation at Break	%	5-7	ISO 3268, ASTM D638, ISO 527-2&4
Tensile Modulus	GPa	3.1-3.5	ISO 3268, ASTM D638, ISO 527-2&4
Flexural Strength	MPa	135-150	ISO 178/ASTM D 790
Flexural Modulus	GPa	3.5-3.9	ISO 178/ASTM D 790
Glass Transition Temperature (T <sub>g</sub> )	°C	125-135	ASTM E 1640
Heat Deflection Temperature (HDT)	°C	120-130	ISO 75-2 Test Method A
Barcol Hardness	Barcol	Min 36	ASTM D 2583
Water Absorption	%	Max 0.22	ISO 62- Test Method 3
Linear Shrinkage <sup>4</sup>	%	Max 1.4	Internal method

- 1) 1.0 phr Cobalt (1.0%) & 0.5 phr DMA (10%) - Catalyst: 1.0 phr Akperox (A60). Curing Time is 24 hrs at Room Temperature 2 hrs at 80°C & 1 hr at 120°C and for HDT specimen is 24 hrs at Room Temperature 2 hrs at 120°C.
- 2) This test has been done on the specimen with linear dimensions (1 cm × 1 cm × 100 cm).

### Handling, Storage and Stability

FARAPOL V 305 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 305 is 6 months.

### Healthy and Safety

Avoid storing the resin along with Metallic Driers and Peroxides in the same area. Safety Data Sheets (SDS) 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 305 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.

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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