

Technical Data Sheet

Farapol Jam Chemical Indus. Co.

FARAPOL I 214

ISO-NPG Resin

Product Description Farapol I 214 is synthesized by reacting Isophthalic acid with Neopentyl glycol and other unsaturated monomers, creating a crosslinking polymer with unique properties. Their chemical structure provides a balance of mechanical strength, chemical resistance, and thermal stability, making them suitable for demanding environments. The product is medium reactive and has a good mechanical performance, combining a good elongation at break in tension and high HDT.

Applications and Use Unsaturated polyester resin (UPR), based on Isophthalic acid (IPA) and Neopentyl glycol (NPG), represents a high-performance class of resins widely used in various industrial applications, such as:

- Widely used as a protective lining for tanks, pipes, and equipment exposed to aggressive chemicals.
- Ideal for boat hulls, decks, and other marine components due to its water resistance and durability.
- Used in the production of panels, laminates, and composites for building and infrastructure projects.
- Automotive and transportation, suitable for manufacturing lightweight and durable parts, including body panels and reinforced components
- Suitable for the production of high-quality gelcoats and topcoats.

Certificates and Approvals

Farapol I 214 is synthesized from raw materials listed in FDA regulation Title 21 CFR 177.2420. 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 22	ASTM D 1639
Solid Content	%	62 - 64	ISO 3251
Color	Gardner	Max 2	ASTM D 1544
Specific Gravity	relative	1.11-1.114	ISO 2811
Gel Time ¹	minute	14 - 16	ASTM D 2471
Exothermic Peak Temperature	°C	150-185	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>	27-30	14-16	10-13

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

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
Heat Distortion Temperature	°C	Min 80	ISO 75-2 Test Method A
Barcol Hardness	Barcol	Min 40	ASTM D 2583
Water Absorption	%	≈ 0.20	ISO 62- Test Method 3
Linear Shrinkage ⁴	%	≈ 1.4	Internal method

- 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 °C.
- 4) This test has been done on the specimen with linear dimensions (1 cm × 1 cm × 100 cm).

Handling, Storage and Stability

FARAPOL I 214 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 I 214 is 6 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 I 214 is supplied in 200 Kg Steel Barrels, IBC 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% should be expected in the test report.

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.

Document Registration

Pub. No: POL- F-76-33 Revision No.: 3 Rev. Date: 11/23/2024

Contact Information

Tel: +98 21 26231019

Fax: +98 21 26231014

Site: www.farapol.com

Email: info@farapol.com



