

# Technical Data Sheet

Farapol Jam Chemical Indus. Co.

## FARAPOL O 123

**Product Description** Farapol O 123 is an Orthophthalic-based unsaturated polyester resin dissolved in styrene. It is designed as a non-accelerated and non-thixotropic resin, providing excellent performance in various composite applications. This resin exhibits low to medium viscosity and medium reactivity, making it suitable for a range of processing methods.

Key features of Farapol O 123 include:

- Efficient impregnation of glass fibers, ensuring optimal reinforcement distribution and improved mechanical properties in the final product.
- Good processing capabilities, enabling its use in hand lay-up, spray-up, and other open mold processes.
- Compatibility with standard curing systems, allowing for flexibility in manufacturing setups

### Applications and Use

Farapol O 123 is ideal for producing lightweight and durable composite materials, including:

- Fabrication of GRP pipes and tanks, junctions.
- Boats and marine components.
- Automotive parts and accessories.
- Construction materials, such as panels and laminates.

The resin is formulated to deliver consistent quality and performance, making it a reliable choice for industries requiring strength, durability, and cost-effectiveness.

### Certificates and Approvals

Farapol O 123 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 <sup>1</sup>	cps	300 - 350	ISO 2555
Acid Value	mgKOH/g	Max 15-25	ASTM D 1639
Solid Content	%	61 - 63	ISO 3251
Color	Gardner	Max 3	ASTM D 1544
Specific Gravity	relative	1.12-1.14	ISO 2811
Gel Time <sup>1</sup>	minute	17 - 22	ASTM D 2471
Exothermic Peak Temperature	°C	140-180	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	17-22	11-13

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

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

<i>Property</i>	<i>Unit</i>	<i>Specification</i>	<i>Method</i>
Tensile Strength	MPa	65-75	ISO 3268, ASTM D638, ISO 527-2&4
Elongation at Break	%	Min 4.0	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 115	ISO 178/ASTM D 790
Flexural Modulus	GPa	Min 3.0	ISO 178/ASTM D 790
Heat Deflection Temperature (HDT)	°C	Min 70	ISO 75-2 Test Method A
Barcol Hardness	Barcol	Min 40	ASTM D 2583
Water Absorption	%	Max 0.30	ISO 62- Test Method 3
Linear Shrinkage <sup>4</sup>	%	≈ 1.8	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 O 123 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 123 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 O 123 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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**Contact Information**

Tel: +98 21 26231019

Fax: +98 21 26231014

Site: [www.farapol.com](http://www.farapol.com)

Email: info@farapol.com

