

Applications:

- Special resin for Resin Transfer Molding (RTM) Process.
- Vacuum infusion process (VIP)

Properties:

- Low Reactivity.
- Good laminating & wetting properties.
- Good mechanical performance combining good elongation at break in tension.

Composition Of The Resin: Farapol I 221 is an Unsaturated Polyester Resin based on Isophthalic Acid and standard Glycols, dissolved in and cross linked with Styrene having capability to be used for Resin Transfer Molding (RTM) purpose.

Compatibility: Avoid storing the resin along with Metallic Driers and Peroxides in the same area.

Safety:

Material Safety Datasheets of the product is available on demand.

Product Data¹:

➤ Viscosity Brookfield, (cps@25 °C)	210 ± 20
➤ Acid Value (mgr KOH/gr Resin)	<23
➤ Color (gardner)	Light Green
➤ Specific Gravity	1.06-1.10
➤ Solid Content (%)	58 ± 2
➤ Gel Time (minute @25°C)	25 ± 2 ²
➤ Peak Temperature (°C, @25°C)	110 ± 20

Storage Conditions:

FARAPOL I 221 is a product sensitive to temperature, Light & Oxidation. Hence should be stored indoors in 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.

Stability:

On storage under above mentioned conditions, the stability for FARAPOL I 221 is 6 months.

Supply Modes:

Resin is Supplied in Steel Barrels and Bulk Road Tankers.

Food and Drug:

All resins in this datasheet are manufactured from raw materials that are listed in FDA regulation Title 21 CFR 177.2420.

¹Gel Time, Acid Value, and Viscosity can be adjusted as per customer requirements.

²Gel time measuring formulation used: (Cobalt Octoate Farapol C901 1%- 1.5 phr, Butanox M50 1.1 phr).

Gel Time Behavior of Resin at Different Quantity of Catalyst & Cobalt Octoate:

Cobalt Octoate 1% (Farapol C 901) phr	MEKP (Akperox A60) phr	Gel Time (minute) @ 25°C
1.0	1.0	23-26
1.5	1.1	22-25

Cobalt Octoate 1% (Farapol C 901) phr	MEKP (Butanox M50) phr	Gel Time (minute) @ 25°C
2.0	2.5	11-12
1.5	1.1	18-23

Mechanical Properties of Clear Cured Castings:

PROPERTIES	TEST VALUE	METHOD
Barcol Hardness	>40	ASTM D2583
Tensile Strength (MPa)	>70	ISO 527-2
Elongation at Break	>4	ISO 527-2
Heat Distortion Temperature (°C)	>80	ISO 75-2
Flexural Strength (MPa)	>120	ISO 178

Material used for curing is: (Cobalt Octoate Farapol C901 1%- 1.5 phr, Butanox M50 1.5 phr). Curing time is 24 Hrs at room Temperature and 3 Hrs at 80 °C.

Water Absorption & Linear Shrinkage:

PROPERTIES	TEST VALUE	METHOD
Water Absorption (%)	≈ 0.3	ISO 62- Test Method 1
Linear Shrinkage (%)	≈ 1.4	Internal Method

This test is done on linear sample with dimensions (1 cm × 1 cm × 100 cm).

Note: The laboratory data and results presented herein were obtained through the use of specific methods mentioned and all necessary precautions, high quality lab reagents, and efficient equipment's by FARAPOL JAM CHEMICAL INDUSTRIES. FARAPOL does not guarantee duplication of such results by third parties.

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