

## Applications:

- Manufacturing of tanks and pipes.
- Manufacturing of Boats.
- Suitable for pultrusion process
- Structural Items

## Properties:

- Medium reactivity
- Good laminating & wetting properties
- Low viscosity
- Low water absorption and Outstanding resistance to hydrolysis

## Composition of The Resin

FARAPOL I 211 is an Unsaturated Polyester Resin based on Isophthalic Acid and standard Glycols, dissolved in and cross linked with Styrene having capability to be used as a Molding resin for pultrusion and filament winding process.

**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 Data<sup>1</sup>:

|                                  |           |
|----------------------------------|-----------|
| ➤ Viscosity Brookfield(cps@25°C) | 400-500   |
| ➤ Acid Value(mgr KOH/gr Resin)   | <23       |
| ➤ Color(gardner)                 | <2        |
| ➤ Specific Gravity               | 1.11-1.13 |
| ➤ Solid Content(%)               | 62 ± 2    |
| ➤ Gel Time(minute @25°C )        | 10-20     |
| ➤ Peak Temperature(°C, @25°C)    | 150-180   |

## Storage Conditions:

FARAPOL I 211 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 to keep material exposed to sunlight.

## Stability:

On storage under above mentioned conditions, the stability for FARAPOL I 211 is 6 months.

## Supply Modes:

Resin is Supplied in 200 Kg net barrels and Bulk Road Tankers

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



**Gel Time Behavior of Resin at Different Temperature:**

|       |         |
|-------|---------|
| @18°C | 29-32 ' |
| @25°C | 14-18 ' |
| @30°C | 9-12 '  |

*Gel time measuring formulation used: (Cobalt Octoate Farapol C 901 1%- 1.0 phr, MEKP-Akperox A60 1.0 phr). These tests have been done on 300±25 cps.*

**Mechanical Properties of Clear Cured Castings:**

| <i>PROPERTIES<sup>2</sup></i>    | <i>TEST VALUE</i> | <i>METHOD</i> |
|----------------------------------|-------------------|---------------|
| Tensile Strength (MPa)           | >75               | ISO 527-2     |
| Elongation at Break              | >3                | ISO 527-2     |
| Heat Distortion Temperature (°C) | >88               | ISO 75-2      |
| Flexural Strength                | >120              | ISO 178       |
| Barcol Hardness                  | >40               | ASTM D2583    |

*Materials used for curing are: (Cobalt Octoate Farapol C 901 1%- 1.0 phr, MEKP-Akperox A60 1.0 phr). These tests have been done on 300±25 cps. Curing time is 24 Hrs at room Temperature and 3 Hrs at 80°C.*

**Water Absorption & Linear Shrinkage:**

| <i>PROPERTIES</i>    | <i>TEST VALUE</i> | <i>METHOD</i>         |
|----------------------|-------------------|-----------------------|
| Water Absorption (%) | ≈ 0.30            | ISO 62- Test Method-1 |
| Linear Shrinkage (%) | ≈ 1.3             | Internal Method       |

*This test is done on linear sample with dimensions (1 cm × 1 cm × 100 cm). These tests have been done on 300±25 cps.*

**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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