

PTU-5103

DESCRIPTION

The PTU-5103 is an un-promoted, non-thixotropic, hybrid, unsaturated polyester resin.

FEATURES AND BENEFITS

- Good wet out/roll out properties.
- Excellent mechanical properties.
- Good handling characteristics.

APPLICATIONS

Manufacture of fiberglass pipes, through the filament winding process.

TYPICAL LIQUID PROPERTIES

Property	Units	Min.	Max.	Test Method
Acid number (Solids)	Mg KOH/g sample	-----	30 max	TARQ – 110
Non-volatile content	%	55	-----	TARQ – 200
Brookfield viscosity ²	Cps.	300	400	TARQ – 300
Gel time ¹	Min.	17	24	TARQ – 400
Cure time	Min.	-----	40	TARQ – 400
Exothermic Peak	°C	140	210	TARQ – 400
Stability at 120°C	Hours	1.5	-----	TARQ – 660
Appearance	-----	Cloudy		Visual

¹ 1% Co (1%), 1.15% Butanox M-50 @25°C; ² RVT, spindle # 2, 50 rpm @25°C

NOTE: Tests results compared with the reported in certificate can be affected due to: batch age, temperature, moisture, type and amount of catalyst, testing equipment and method.

PHYSICAL PROPERTIES

Physical properties are shown for fiberglass laminate: These are typical values and are provided for reference only.

Property	Units	Value	Test Method
Tensile Strength	Psi	10, 400	ASTM D-638
Tensile Modulus	Psi	1.4 x 10 ⁶	ASTM D-638
Elongation	%	3	ASTM D-638
Flexural Strength	Psi	18, 684	ASTM D-790
Flexural Modulus	Psi	5.5 x 10 ⁶	ASTM D-790
HDT @ 1.82 MPa	°C	74.25	ASTM D-648

- 1.- Laminate construction: 30% fiberglass to resin ratio.
- 2.- Laminate cured overnight at room temperature and post-cured at 65°C for 5 hours.
- 3.- HDT is evaluated at neat resin casting.

RECOMMENDATIONS

- 1.- The catalyst level should not exceed 2.8% or fall below 1% for proper cure.
- 2.- This product should not be used when temperature conditions are below 16°C, as curing and handling may be adversely affected.
- 3.- Do not add any material different to the catalyst recommended for this product.
- 4.- Do not mix organic peroxides with metallic soaps, amines or any type of accelerators or promoters, because it can result on violent decomposition with fire or explosion.
- 5.- Any additional questions, please contact your Reacciones Químicas SA de CV sales representative.

STORAGE

Uncatalyzed PTU-5103 resin, has a usage life of three months from invoice date, when stored at 25°C or below, in a closed, factory sealed opaque containers, and out of direct sunlight, heat sources or moisture. For every 7°C increase in storage temperature, the shelf life is reduced by one half.

SAFETY AND HANDLING

Detailed information for safe handling of PTU-5103 resin, can be found on its SDS. For more information, please contact your Reacciones Químicas SA de CV sales representative.

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