PIP-6000

DESCRIPTION:

Pre-promoted, medium viscosity, isophthalic polyester resin of high molecular weight. Good wet-out to mineral fillers and fiberglass; fast hardness development and good mechanical and chemical properties on finished parts. Styrene content is under 48% to meet particular customer requirements.

USES:

Fabrication of fiberglass laminated parts for hand lay-up or spray-up where special mechanical and chemical properties are needed. Recommended for fuel storage tanks.

TYPICAL LIQUID PROPERTIES:

Next values are for a reference guide only. Certain batches will not conform exactly to these numbers due to: storage conditions, temperature changes, batch age, test equipment and procedures; these variables may affect deeply the evaluation results. Products with values outside of these numbers can perform acceptably. Final suitability of product is in the end use performance.

Test	Minimum Value	Maximun Value	Test Method
Acid Number	--	25 (solution)	TARQ-100
Non-Volatile Content (%)	50	52	TARQ-200
Gel Time (minutes) [1]	11	15	TARQ-400
Cure Time (minutes) [1]	15	25	TARQ-400
Exothermic Peak (°C) [1]	--	215	TARQ-400
Thixotropic Index [3]	3.0	--	TARQ-300
Density @ 25°C	1.060	1.090	TARQ-700
Brookfield Viscosity (cps) [2]	550	650	TARQ-300
Stability at 120°C (hours)	1.0	--	TARQ-660
Appearance	Cloudy	Cloudy	Visual

[1] 1.25% Butanox M-50a @ 25°C
[2] RVF, spindle # 2, 20 rpm @ 25°C
[3] RVF, spindle # 2, 2 rpm / 20 rpm @ 25°C

CURE:

It is recommended that gel time be tested in the customer´s plant, due to age, temperature, humidity and catalyst type / amount, will produce varied gel times.
The catalyst level should not exceed 2.4% or fall below 1% for proper cure.

This product will have use difficulty when temperature fall bellow 16°C, due to curing may be adversely affected. All the gel and cure times are related to Butanox M-50a as catalyst. If any doubt, please contact our Technical Service Department.

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PHYSICAL PROPERTIES:

Polyester resin do not develop ultimate physicals, i.e. “cure” right away. Time and / or heat are needed. Heat may come from internal exotherm or external sources. The amount of catalyst will affect the cure. With time and / or heat, a “moderate cure” will develop into “ultimate physicals”.

When the part reaches ultimate cure depends upon time, temperature and satisfactory catalyzation. Too much or too little catalyst can result in permanent under-cure, wich cannot be overcome.

Practically speaking, serviceable cure time will range from overnight to a week, and occasionally longer due to circumstances. Small and thickness laminates, properly catalyzed without exotherm or external heat can be delay months or years to get their last physical properties.Sufficient external heat can reduce the cure time to less than one day.

Test (laminate) [1]	Value
Tensile Strength (psi)	15,500
Tensile Modulus (psi x 10^6)	1.150
Elongation (%)	1.85
Flexural Strength (psi)	22,800
Flexural Modulus (psi x 10^6)	0.900

[1] Glass content 30%

CAUTIONS:

Do not use air to mix, because it is not effective and moreover can produce contamination with water and oil. Do not add any material than the recommended fillers and catalyst for this product. If any doubt, please contact our Technical Service Department.

Warning: Avoid direct mixing of organic peroxide with metalic soaps, amines or any type of accelerator or promotor, because it can result on violent decomposition with fire or explosion.

STORAGE LIMITATIONS:

Uncatalyzed unsaturated polyester have a usage life of three months from date of manufacture when stored at 25°C or below, in a closed, factory-sealed, opaque container and out of direct sunlight, heat sources or moisture. By each 7°C increment on temperature, usage life decrease to half.

SHIPPING:

Metallic, closed and sealed drums of 230 Kg or tank-wagons.

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