



Technical Data Sheet:

UP-220

Product Name and Identification:

- Product Name: **UP-220**
- Chemical name: **Isophthalic Unsaturated Polyester Resin**

Product Description: UP-220 is a high-quality unsaturated polyester resin based on isophthalic acid, with low color and medium viscosity. This versatile resin has low shrinkage and water absorption and exhibits excellent mechanical properties. UP-220 is specially formulated for use in the pultrusion process, making it an excellent choice for manufacturing various products such as sanitary connections, tanks, pipes, and floating structures such as boats and kayaks. Thanks to its exceptional mechanical properties and low shrinkage, UP-220 offers a reliable and high-performing solution for various applications in the pultrusion process.

Physical and Chemical Properties:

- 1. Viscosity:** 300-400 mPa.s
- 2. Percent Solids:** 63-66 %
- 3. Density at 20 °C:** 1.05-1.13 g/cm³
- 4. Acid Value (Solids):** <30 mg KOH/g
- 5. Color (gardener):** <2
- 6. Gel Time:** 5-10 minute
- 7. Curing time:** 10-15 minute
- 8. Peak Temperature:** <200 °C

Technical Performance:

Parameter	Result	Units	Test Method
Hardness (Barcol):	35 - 40	-	ASTM D2583
Tensile Strength:	70 - 80	Mpa	ISO 527-2
Elongation at Break:	3 - 4	%	ISO 527-2
Flexural Strength:	>110	Mpa	ISO 178
Flexural Modulus:	2500 - 3500	Mpa	ISO 178
Heat Distortion Temperature:	80 - 90	°C	ISO 75-2
Water Absorption, 24 hrs.:	≤ 0.30	%	ISO 621958

Application and Use:

Mold Manufacturing

Prefab Pools

Artificial Stone

Furniture

Curing Conditions: At a temperature of 25°C for every 100 grams of resin adding 1.44 grams (1% concentration) of cobalt accelerator and 2.2 grams of hardener (MEKP-A60).

Packaging and Shelf Life:

Packaging Options: UP-220 is conveniently packaged in robust 200 kg metal barrels.

Shelf Life: Under optimal storage conditions, UP-220 exhibits a shelf life of 6 months.

