



Technical Data Sheet:

UP-190(RTM)

Product Name and Identification:

- Product Name: **UP-190(RTM)**
- Chemical name: **Orthophthalic Unsaturated Polyester Resin**

Product Description:

UP-190(RTM) is an unsaturated polyester resin based on phthalic acid, specially designed for use in the RTM (Resin Transfer Molding) production method. With excellent wetting capability, suitable mechanical properties, and desirable elongation during tension, this high-quality resin is a key component in the manufacturing of various products using the RTM process. Whether used for industrial or household purposes, UP-190(RTM) is a versatile and high-performing solution for various applications in the RTM production method.

Physical and Chemical Properties:

1. **Viscosity:** 190-230 mPa.s
2. **Percent Solids:** 58-61 %
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:** 12-15 minute
7. **Curing time:** 17-25 minute
8. **Peak Temperature:** >150 °C

Technical Performance:

Parameter	Result	Units	Test Method
Hardness (Barcol):	35 - 40	-	ASTM D2583
Tensile Strength:	60 - 70	Mpa	ISO 527-2
Elongation at Break:	3 - 4	%	ISO 527-2
Flexural Strength:	90 - 120	Mpa	ISO 178
Flexural Modulus:	2500 - 3000	Mpa	ISO 178
Heat Distortion Temperature:	50 - 60	°C	ISO 75-2
Water Absorption, 24 hrs.:	≤ 0.30	%	ISO 621958

Application and Use: **RTM Molding**

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-190(RTM) is conveniently packaged in robust 200 kg metal barrels.

Shelf Life: Under optimal storage conditions, UP-190(RTM) exhibits a shelf life of 6 months.

