



MECHSTER™ 1110HFR

(Very Low Flammability Halogen Free Unsaturated Polyester Resins)

Mechster™ designates a variety of unsaturated polyester resins synthesized at **Mechemco Industries**. These resins are specially engineered to meet the most diverse needs of fibreglass reinforced plastic moulding industry. Our R & D is geared to tailor **Mechster™ Resins** for the customers' most specific end application. In fact we take pride in suitably formulating the resin to improve your production efficiency as also the field performance of the FRP product.

Mechster™ 1110HFR is a medium viscosity, medium reactivity, halogen free flame retardant unsaturated isophthalate polyester resin specially designed for components to comply with the low flame spread, low smoke density and low toxicity index when used with Mechster™ 1110NGHFR Gel Coat. This resin while exhibiting very low flammability, retains physical and mechanical and electrical properties of unsaturated polyester resins.

The **Mechster™ 1110HFR** is designed to have,

- Medium Viscosity
- Homogenous Consistency
- Fast Wet out of Reinforcements
- Complete Cure

Physical Properties

Appearance : Creamy White viscous liquid
 Specific Gravity @30°C : 1.36 ± 0.02
 Viscosity @ 30°C by
 Brookfield Viscometer, cps : 550 ± 50
 RVT Spindle No. 3, 50 rpm
 Acid Value mg KOH/g : 8 ± 3
 Volatile Content (w/w) % : 28 ± 3

Curing Behaviour

Geltime, minutes @ 30°C with
 1.5% v/w A103¹
 1.5% v/w C108² : 10 - 12
 Peak Exotherm Temperature³ : 140

¹A103 : Cobalt Octoate Solution containing 3% Cobalt.

²C109 : Methyl Ethyl Ketone Peroxide Containing 8% Active Oxygen

³Resin Casting without Reinforcement

Typical Properties of Cured Mechster™ 1110HFR

Property	Value
Specific Gravity @ 25°C	1.55
Tensile Strength, MPa	40
Flexural Strength, MPa	76
Heat Deflection Temperature, °C	85
Barcol Hardness	42
Limiting Oxygen Index	Min 25

The cast were prepared from **Mechster™ 1110HFR** catalysed with 1.0% v/w accelerator (A103) and 1.5% v/w catalyst (C108). The specimens were first allowed to cure at room temperature and subsequently post cured at 80°C for six hours.

Uses

Mechster™ 1110HFR is suitable for Flame Retardant Components and Parts to be produced by Hand Lay-up / Spray-up process for applications in Mass Transit, Automotive and Building and Construction Industries.

Packaging and Storage

Mechster™ 1110HFR is supplied in an open mouth Steel Barrels containing 60 kg Net. It is recommended that material in the container is stirred / mix thoroughly prior to transfer / use. Material must be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 2 months.

Handling Precautions

Mechster™ 1110HFR has a flash point of 32°C and is classified as flammable. Containers should be kept in a cool and ventilated place away from sunlight and sources of ignition. "No Smoking" rules should be strictly enforced. In case of fire, use dry chemical, foam, carbon dioxide or water spray to extinguish the flame. Spillage may be absorbed onto sand or earth and shoveled off and disposed according to local disposal regulations.

Skin contact and vapor inhalation should be avoided during moulding because of the presence of styrene monomer. In case of irritation in the eye or skin, wash with copious amount of water. In extreme case, seek immediate medical advice. The moulding area should be sufficiently ventilated for reducing the vapour levels in the air while compounding and moulding.

Our information regarding our products, equipments and processes is based on extensive research and experience in the field of Applied Engineering and is provided as a general guidance in the application of our product. The user should verify the suitability of our product for their end use. We do not warrant or assume any liability for the information provided.