

MECHSTER™ 1110MFR

(Very Low Flammability Unsaturated Polyester Resins for RTM)

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™ 1110MFR is a medium viscosity, medium reactivity, flame retardant unsaturated polyester resin specially designed for components to comply with the fire retardant characteristics as per IS 6746:1994 Type I, BS 476 Part 7 as Class I as well as as per DIN 5510-2 to achieve the S4 SR2 ST2 classification when used with Mechster™ 1110GFR Gel Coat. This resin while exhibiting very low flammability, retains physical and mechanical and electrical properties of unsaturated polyester resins.

The **Mechster™ 1110MFR** 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 : 1.28 ± 0.02
 Viscosity @ 30°C by
 Brookfield Viscometer, cps : 500 ± 100
 LVD Spindle No. 3, 60 rpm
 Acid Value mg KOH/g : 16 ± 3
 Volatile Content (w/w) % : 30 ± 2

Curing Behaviour

Geltime, minutes @ 30°C with
 1.5% v/w A103¹
 1.5% v/w C108² : 10 - 12
 Peak Exotherm Temperature°C : 150

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™ 1110MFR

	Cast ³
Specific Gravity @ 25°C	1.36
Tensile Strength, MPa	45
Flexural Strength, MPa	75
Heat Deflection Temperature, °C	85
Barcol Hardness	40
Limiting Oxygen Index	Min 25

The cast were prepared from **Mechster™ 1110MFR** 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™ 1110MFR is suitable for Flame Retardant Components and Parts to be produced by Hand Lay-up / Spray-up / RTM / VARTM process for applications in Mass Transit, Automotive and Building and Construction Industries.

Packaging and Storage

Mechster™ 1110MFR is supplied in an open mouth HDPE Barrels containing 40 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™ 1110MFR 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.