

MECHSTER™ 1620(O)

(Very Low Flammability Orthophthalate Resin)

Mechster™ designates a variety of unsaturated polyester resins synthesized at *Mechemco Resins Pvt. Ltd.* 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™ 1620(O) is a low viscosity, medium reactivity, Orthophthalate unsaturated polyester resin specially designed for components to comply with the fire retardant characteristics as per IS 6746:1994 Type I. This resin while exhibiting low flammability, retains physical and mechanical and electrical properties of unsaturated polyester resins.

The **Mechster™ 1620(O)** is designed to have,

- workable viscosity
- homogenous consistency
- fast wet out of reinforcements
- rapid cures
- excellent surface finish

Physical Properties

Appearance	: Opaque White liquid
Specific Gravity @25°C	: 1.30 ± 0.02
Viscosity @ 25°C by	
Brookfield Viscometer, cps	: 550 ± 50
RVT Spindle No. 3 at 20 rpm	
Acid Value mg KOH/g	: 15 ± 2
Volatile Content (w/w) %	: 30 ± 2

Curing Behaviour

Geltime, minutes @ 25°C with	
1.0% v/w A103 ¹ and 1.0% v/w C108 ²	: 25 - 30
Peak Exotherm Temperature°C	: > 100
Time to Peak Temperature, Minutes	: 40 – 55

¹A103 : Cobalt Octoate Solution in Styrene (3% Cobalt content)

²C108 : Methyl Ethyl Ketone Peroxide Containing 8% Active Oxygen

Typical Properties of Cured Mechster™ 1620(O)

	Cast
Specific Gravity @ 25°C	1.35
Tensile Strength, MPa	45
Flexural Strength, MPa	65
Heat Deflection Temperature, °C	70
Barcol Hardness	45
Limiting Oxygen Index	25
Flammability as per IS 6746:1994	Type I

The casts were prepared from **Mechster™ 1620(O)** catalysed with 1.0% v/w Accelerator (A103) & 1.5% v/w catalyst (C109). The specimens were first allowed to cure at room temperature for 24 hours and subsequently post cured at 80°C for six hours. (Test methods : IS 6746-1994, ASTM and BS where IS not available.)

Uses

Mechster™ 1620(O) is recommended for use as a hand lay-up resin for molding Flame Retardant FRP components for Indoor or outdoor applications – Components / Laminates made from **Mechster™ 1620(O)** passes the Vertical Burn Rate Test as per IS 15061:2002.

Packing

Mechster™ 1620(O) is supplied in non returnable M.S. drums containing 50 kg / 225 kg net

Storage & Handling Precautions

Mechster™ 1620(O) resin should be stored in a cool dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is well over 3 months. Material must be stirred well before using.

Mechster™ 1620(O) has a flash point of 34°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. Spillages may be absorbed onto sand or earth and shovelled 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.