

Technical Data Sheet

Mechster™ 5310H

(High HDT Vinyl Ester Resin)

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™ 5310H is a bisphenol A epoxy based vinyl ester resin developed specifically for the manufacture of reinforced plastic components having high temperature chemical resistance and toughness.

Mechster™ 5310H is designed to have:

- Excellent wetting and adhesion to glass fibres
- higher heat deflection temperature
- excellent surface finish
- very good fracture toughness

Fibreglass reinforced **Mechster™ 5310H** laminates display excellent physical, mechanical, heat aging and excellent chemical resistance to aqueous solution and improved resistance to organic solvent. The performance properties of **Mechster™ 5310H** can be placed between **Mechster™ 5310** and **Mechster™ 5310(N)** resins.

Mechster™ 5310H is equally suited for contact molding, pultrusion, matched die molding, continuous laminating and filament winding applications.

Physical Properties

Appearance: Yellowish Green Clear Liquid
 Specific Gravity @25°C : 1.05± 0.01
 Viscosity @ 25°C by
 Brookfield Viscometer, cps : 350 ± 50
 Acid Value, mg KOH/g : 7 ± 2
 Volatile Content, (w/w)% : 42 ± 2

Properties of Cured Mechster™ 5310H (Unfilled Cast)

Tensile Strength, MPa : 85
 Tensile Modulus, Mpa : 3400
 Elongation at Break, % : 5
 Flexural Strength, MPa : 150
 Flexural Modulus, MPa : 3500
 Heat Deflection Temperature, °C : 112
 Barcol Hardness : 40

(Test methods : IS 6746-1972, ASTM and BS where IS not available.)

Uses

Mechster™ 5310H is suitable for manufacturing of high performance FRP components by all types of molding techniques including semi automated and automated processes, viz., filament winding, centrifugal casting, resin injection molding. **Mechster™ 5310H** is also suitable for formulating the mortars, floor toppings, lining compounds based on the flake glass or mica.

Packing

Mechster™ 5310H is supplied in non-returnable M.S. drums containing 200 kg net and HDPE carboys containing 30 kg net.

Storage

Mechster™ 5310H should be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 3 months. The storage stability could be further improved by aerating the resin stored in barrels at an interval of about a fortnight.

Handling

Mechster™ 5310H 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 processing.

The above information and recommendation are based on our extensive experience in the field and is provided only as a general guidance for application of our product. The user should verify the suitability of our product for their own specific applications. We do not warrant or assume any liability for the information provided.