

# MECHSTER™ 5310NG(T)

(Epoxy Novalac Vinyl Ester Tooling Gelcoat)

**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™ 5310NG(T)** is a tooling gelcoat resin which is a specially modified version of Epoxy Novalac based Vinyl Ester Resin, **Mechster™ 5310(N)**. The tool gets a uniform smooth, shiny surface with this gel coat. This gel coat can be easily mixed with suitable color pastes for desired color of gel coats.

**Mechster™ 5310NG(T)** is designed to have :

- Excellent surface finish
- Excellent Toughness and good abrasion resistance
- Excellent adhesion with the backup FRP
- Easier Vertical surface applications with minimum sagging
- High Thermal Stability

Molds made from **Mechster™ 5310NG(T)** exhibit excellent surface finish which is smooth and glossy. The surface has very good toughness and abrasion resistance coupled with very high heat deflection temperature. The gel coat is found to prevent star crack formation and blistering on the mould surface. The tool prepared with this gelcoat reduces the post preparation repairs and working on the tool.

## Physical Properties

Appearance	: Highly Viscous Opaque Liquid
Specific Gravity @25°C	: 1.26 ± 0.01
Viscosity @ 25°C by	
Brookfield Viscometer, cP	: Thixotropic
Acid Value mg KOH/g	: 7 ± 2
Volatile Content (w/w) %	: 30 ± 3

## Curing Behaviour

Gel time, minutes @ 25°C	: 15 – 20
1.5% Promoter (DMA Soln in Styrene 33%)	
1.5 % Accelerator (Cobalt Octoate with 3% Co)	
1.5% Catalyst (MEKP with 8% Active Oxygen)	
Peak Exotherm Temperature, °C	: 130-140

## Properties of Cured Mechster™ 5310NG(T)

Specific Gravity @ 25 °C	: 1.25
Tensile Strength, MPa	: 72
Tensile Modulus, MPa	: 3900
Flexural Strength, MPa	: 130
Flexural Modulus, MPa	: 3600
Elongation at Break, %	: 3.5
Heat Deflection Temperature, °C	: 140
Barcol Hardness	: 45
(Test methods : IS 6746-1972, ASTM and BS where IS not available.)	

## Uses

**Mechster™ 5310NG(T)** is a suitable tooling gelcoat for all types of moulds to be used for Hand-layup, Spray-up and RTM applications. The material is best suitable for precision moulding. This tooling gel coat can be backed up with **Mechster™ 5310(T)** and **Mechster™ 1110(T)** for best results.

## Packing

**Mechster™ 5310NG(T)** is supplied in non returnable M.S. drums containing 25 kgs. And 50 kgs net.

## Storage

**Mechster™ 5310NG(T)** 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™ 5310NG(T)** 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.

## Caution

Store catalyst and accelerator separately. Do not allow them to come in contact with each other as they form an explosive mixture. Carry out separate addition of accelerator and catalyst to the resin mix for avoiding accidents.

## Precautions for Handling Mechster™ 5310NG(T)

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.

*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.*