



Epoxy Novolac based Vinyl Ester Resin

Polyseal -840 (H.G)

General Information

POLYSEAL -840 (H.G) is a non-promoted Epoxy Novolac based Vinyl Ester Resin. It belongs to the finest anti-corrosive resin in polyester family.

It is an excellent corrosion resistant (Superior than Epoxy based Vinyl Ester Resin) against a very wide range of aggressive chemicals over a moderately higher range of temperature. Like other epoxy vinyl ester resins it's unique cross-linking pattern after co-polymerizing with monomer it provides superior mechanical strength than any other unsaturated polyester resin.

Typical Liquid Resin Properties

<u>Properties</u>	<u>Specified Range</u>	<u>Unit</u>
Acid Value	4-10	mg KOH/gm of Resin
Viscosity @ 25°C Brookfield Viscometer RVDV1-M , Spindle 2, RPM- 20.	350 ± 100	cps
Monomer Content	44 ± 3	%
Gel Time @ 25°C With 1% of 3% Cobalt Octoate Solution + 1% of DMA (20%) Promoter + 1.5% of 50% Solution of MEKP	15 ± 5	Minute
Peak Exotherm Temperature	210 ± 10	°C

Properties are tested in controlled laboratory condition, according to the method described in **IS 6746-1994**.

All the physical parameters can be tailored for suitability of customer's specific end application.

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Mechanical Properties of Cast Resin

<u>Properties</u>	<u>Unit</u>	<u>Nominal Values</u>	<u>Test Method</u>
Tensile Strength	MPa	88	ISO 527-4
Tensile Modulus	MPa	3250	ISO 527-4
Elongation at break	%	5-6	-
Flexural Strength	MPa	150	ISO 178
Flexural Modulus	MPa	3320	ISO 178
Heat Deflection Temp.	°C	120	ISO 75
Barcol Hardness	Barcol	42	ASTM D2583

(Cured for 24 hours at room temperature followed by 2 hrs at 120°C)

Features

Compare to normal Vinyl Ester resins , Polyseal-840 (H.G) exhibits :

- Excellent wetting and adhesion to glass fiber.
- Higher glass to resin ratio with rapid and complete curing.
- Easier air release.
- Excellent surface finish.
- Increased fractured toughness.
- It's excellent heat deflection temperature provides dimensional stability at higher temperature which provides hydrolytic stability of the composites.
- Superior resistance to aggressive Solvents and oxidizing chemicals.

Mode of Application

This resin is suitable for **Hand lay-up, spray- up, Filament winding, Compression molding and Resin transfer molding techniques** (RTM) etc. Polyseal –840(H.G) is typically used for etc.

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Mode of Application

Polyseal -840 (H.G) is especially suitable for the following applications:

- Chemical resistant process equipments
- Storage tank, pipes, for Acids- Alkalis tanks, high temperature chlorination/ caustic scrubbing, fuel storage tanks, solvent extraction processes, Oxidizing acids and wide range of inorganic and organic corrosive chemicals.

Storage & Handling

Like other polyester resins Polyseal -840 (H.G) is very sensitive to **temperature, moisture** and **Sun light**. Hence resin containers should be stored at dry places in closed-sealed condition strictly bellow 25°C to ensure optimum resin properties. Prolong exposure to open environment can affect liquid resin properties like viscosity and gel time.

Shelf Life

All the unsaturated polyester resins are of limited shelf life. Under above mentioned conditions the shelf life of the material is 90 days (3 months).Storage at higher temperature will adversely affect shelf life.

Packaging

Polyseal – 840 (H.G) is supplied in 25 kg and 35 kg Jarricanes and M.S. Drums containing 225.0 Kg of resin.

Safety Information

Skin contact and vapour inhalation should be avoided during working due to presence of styrene monomer. Wear breathing mask, safety goggles, gloves and protective clothing while working. Please consult Material Safety Datasheet prior to working.

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N.B. : All the above information is based on the results of tests carried out at our laboratory. All the information indicates general characteristics of the product.

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