

## CHEMIFIX GP

### General Purpose Polyester Resin

**Chemifix GP** (General Purpose Polyester Resin) is the brand name for unsaturated polyester resins manufactured at **Chemisight Resins Technologies**. These resins are specially designed to cater almost entire spectrum of glass reinforced plastic moulding industry. **Chemifix GP** are formulated to have increased production efficiency and improved field performance of finished product.

**Chemifix GP** is a versatile general purpose orthophthalic resin of medium reactivity designed to give fast wetout of fiberglass reinforcements with higher glass to resin ratio and larger loading of inorganic fillers. rapid cures and fast moulding cycles with smooth and tack-free glossy surface, are typical characteristics of **Chemifix GP**.

Fiberglass reinforced **Chemifix GP** laminates display excellent physical, mechanical and electrical properties besides thermal and acoustic insulation properties. Articles moulded out of **Chemifix GP** are light weight, dimensionally stable and resistant to heat and water.

### Properties of **Chemifix GP**

- Appearance : Colourless to pale yellow liquid
- Specific Gravity @ 25°C : 1.12 ± 0.01
- Viscosity @ 25°C : 450 ± 50  
Brookfield Viscometer, cP
- Acid Value, mg KOH/g : 25 ± 3
- Volatile Content, (w/w)% : 35 ± 2
- Gel time, minutes @ 25°C with : 15 - 20  
1.5% Accelerator (NP-A03)  
1.5% Catalyst (NP-C09)
- Peak Exotherm Temperature, °C : 155 - 160



## Fiber reinforced polyester Composites VS other material of construction A Comparison :-

Mechanical Properties of Pultruded Profiles Vs. Other Structural Materials

Properties	Pultruded FRP	Regid PVC	Mild Steel	Stainless Steel	Wood
Tensile Strength (N/mm <sup>2</sup> )	382	44	340	340	80
Flexural Strength (N/mm <sup>2</sup> )	468.3	70	380	380	12
Flexural Modulus (N/mm <sup>2</sup> )	22489	2400	196000	196000	700
Izod Impact (Kg.m/cm)	2.15	0.09	1.5	0.53	-

The cast and glass reinforced laminates were prepared from **Chemifix GP** Catalysed with 1.0% and 1.5% Accelerator were cured at room temperature for 24 hours and post-cured at 650C for 6 hours.

The mechanical properties of the glass reinforced **Chemifix GP** laminates can be greatly improved by ensuring complete wetout and incorporation of directional reinforcements like rovings, woven rovings, glass cloth etc.

**Uses:** **Chemifix GP** is suitable for a variety of contact moulding FRP articles such as,

- Furniture
- Building panels
- Automotive hoods
- Modular housings
- Boats
- Sanitary ware
- Machine covers & guards
- Polyground equipments
- Cooling towers

Besides, it can also be used for electrical insulators, encapsulations, castings, waterproof linings, coatings etc.

**Packing:** **Chemifix GP** is supplied in non-returnable M. S. drums containing 220 kgs. net and HDPE carboys containing 35 kg. net.

**Storage & Handling:** **Chemifix GP** has a flash point 34°C and classified as flammable. Containers should be kept in a cool, dry and ventilated place away from sunlight and sources of ignition. Under these conditions, the shelf life is 3 months. The storage stability could be further improved by aerating the resin stored in an interval of about a fortnight.

"No Smoking" rules should be strictly enforced. In case of fire, suitable extinguishers are dry chemical, foam, carbon dioxide or water spray. Containers closed to a fire should be kept cool by spraying with water.

Spillage may be absorbed onto sand or earth and shovelled off for disposal according to local regulations.

**Caution:** Store accelerator and catalyst separated. Do not allow them to come in contact with each other as they form violently explosive mixture. It is recommended that the accelerator be blended into the resin first and catalyst be added immediately before use.

**Physiological & Toxicological behaviour of Chemifix GP:** The moulding area should be sufficiently ventilated for reducing the styrene vapour levels in the air while moulding.

Skin contact and vapour inhalation must be avoided during moulding because of the presence of styrene monomer. In case of irritation in the eye or skin, it is recommended to wash with copious amount of water. In extreme case, seek immediate medical advice.



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