

# EstoWrap Resin

## Description

**EstoWrap Resin**, epoxy resin for saturation of FRP material (Estowrap, Estoglass and Estoaramid) to form in-situ FRP Composite.

**EstoWrap Resin** is part of the strengthening material systems for the creation of composite strengthening.

## Uses

- **EstoWrap Resin** is used to saturate the Estowrap, Estoglass and Estop aramid fabric sheets to create a composite with the concrete structure.
- Strengthening fibre reinforced plastic composites can be used to increase flexural, shear, impact resistance, axial load capacity.

## Advantages

- **Adheres to fabric and primer concrete substrates** – Allows fast creation of true composite with the concrete.
- **Solvent free** – Low VOC and non-shrink
- **Pre-proportioned packaging** – No job site errors
- **Easy application** – Low viscosity penetrates fabric easily.
- **Cures hard at low temperatures** – Wide application range

## Properties

Supply form	Blue color
Application temperature	25 – 40 C
Mixed density (kg/liter)	1.20 ± 0.07
Mixing ratio, by weight (base : Hard), kg	2 : 1
Pot life	<45 minutes at 30°C
Compressive strength ASTM D695	>100 Mpa

Tensile strength (ASTM D638)	>50 MPa
Flexural strength (ASTM D790)	>75 MPa
Flexural E Modulus (ASTM D790)	3500 Mpa
Bonding strength to concrete, ASTM D7234 7 days	>5Mpa (failure in concrete)
Shear adhesive Strength, ASTM D1002	>10 Mpa

## Application

### Surface preparation

Remove all grease, oil, dust, residual curing compound, mould release agent or other contaminant that could impair adhesion. Laitance should preferably be removed by light sweep blasting or hydro-jetting. Mechanical wire brushing may be appropriate for small areas.

Spalled concrete should be cut back to sound concrete. Conventional concrete curing compounds should be removed before application.

### Mixing

Proportion part kits accurately mixing only what can be used in less than 30 minutes. Thoroughly stir Part Base, and add Hardener and blend thoroughly using a slow speed (300-600rpm) mixer fitted with a suitable paddle.

### Priming

The base and hardener components of EstoWrap Primer should be thoroughly stirred before the two are mixed together. Pour hardener into suitably sized mixing vessel and add the base resin into the hardener. Mix using electrical hand mixer at medium speed (300 – 500 RPM) attached with spiral-shaped steel stirrer

Mix these components in the quantities supplied taking care to ensure all containers are scraped clean. Apply EstoWrap Primer to the prepares substrate using a stiff brush, working the primer well into the substrate at a coverage rate of 0.3 kg/m<sup>2</sup> (could be more depend on porosity)

### **Application of EstoWrap Resin**

Apply the EstoWrap Resin to primed surface, using roller at the rate of 0.6 – 1.0 kg/m<sup>2</sup>. Immediately after application of the resin, the pre-cut

**Estowrap 600** Carbon Fabric Sheet, should be applied using rubber or plastic scraper. roll it with an impregnation roller in a direction parallel to the fibers in the carbon sheet.

- After 30 minutes of the impregnation, Wait until tacky state achieve and within 3 hours, apply a second coat of EstoWrap Resin at a coverage rate of 0.6 – 1.0 kg/m<sup>2</sup> to completely encapsulate **Estowrap 600** Carbon Fabric Sheet.
- If there is an overlap, the overlap should be in excess of 10 cm on top and bottom edges (longitudinally)

In case of protection with plaster, ensure to dry-shake oven dried fine quartz grains to assist bond strength with overlay.

### **Curing**

Cure time will vary depending on the ambient temperature, quantity mixed and placed.

### **Packaging**

EstoWrap Resin

Hardener 5 kg Base 10 kg

### **Coverage**

EstoWrap Resin 0.6 – 1.0 kg/m<sup>2</sup>

### **Shelf Life**

**EstoWrap Resin** can be stored in tightly closed original containers for 12 months at moderate temperature.

### **Precaution**

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the ESTOP Material Safety Data Sheet (MSDS) from our office or our website.

## **Important Note**

*Estop products are guaranteed against defective materials and manufacture and are sold subject to its standard Terms and Conditions of Sale, copies of which may be obtained on request. Whilst Estop endeavors to ensure that any advice, recommendation, specification or information in may give is accurate and correct, it shall not, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.*