

# Estoglass

## High Strength Glass Fiber Sheet For Concrete Structural Strengthening System.

### Description

Estoglass is an high tensile strength sheet of longitudinal oriented continuous glass fiber element which are held in position by lightweight, open mesh scrim. When used in conjunction with a specially developed primer and resin, improves structural performances by strengthening and improving shear strength and deformation properties.

### Uses

Estoglass is used for strengthening columns and beams of load bearing structures specifically where extra improvement to shear strength and deformation properties is required. Typical applications include columns, beams and slabs, road bridges, buildings and towers. In the following structures :

- Commercial, high rise
- Industrial plants
- Warehouse
- Bridges, tunnels, jetties
- Pipes, culvert, chimneys
- Power station plants

### Advantages

- Exhibit high tensile strength
- Good dimensional stability
- High impact resistant
- Resin is of high chemical resistant
- Imparts very low electrical conductivity
- Will not corrode
- Lightweight hence easy to handle and carbon reinforced hence good thermal expansion
- High shear stress and cut resistance

### Durability Description

Estoglass is a high performance fabric sheet which is encapsulated in EstoWrap resin to provide properties of extra high elastic modulus and high strength. Its low density properties, specific strength and modulus are extremely high compared with conventional materials such as steel and concrete.

Estoglass is extremely easy to handle and apply with no noise and minimal site equipment necessary allowing

quick and easy reinforcement of structural members without major disruption.

Estoglass is lightweight, has high impact resistant, high tensile strength, is extremely stable at high and low temperatures and has excellent chemical resistance under a variety of exposure conditions.

### Physical Properties

Properties	Unit	Value
<b>Fiber Material</b>		
Tensile Strength	MPa	3,400
Modulus Elasticity	Gpa	70 - 72
Elongation at Break	%	3.0
Ultimate Strength	MPa	1860 to 2680
Rapture Strain	%	Min. 4.5
<b>Composite Material</b>		
Tensile Strength	MPa	710
Elongation at Break	%	0.5
<b>Fabric</b>		
Glass Fabric Weight	g/m2	450 /935
Glass Fabric Thickness	mm	0.17 / 0.36

### Instruction to Use

#### Preparation

Concrete surface must be dry, smooth, sound free from debris and loose material. Surfaces must be fully cured and free from contamination.

Thorough preparation of the substrate is vital with light grit blasting recommended to remove all deleterious substances and provide a suitable key. All dust and debris must be removed prior to proceeding. Blow holes or imperfections should be filled with Estorex Putty or Estocrete WR prior to application of EstoWrap Primer.

#### Priming

The base and hardener components of EstoWrap Primer should be thoroughly stirred before the two are mixed together.

Pour the hardener into a suitably sized mixing vessel and add the base resin into the hardener. The use of a heavy-duty slow speed, flameproof or air driven drill fitted with a mixing paddle is desirable. Mix these components in the quantities supplied taking care to ensure all containers are scraped clean.

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Apply EstoWrap Primer to the prepared substrate using a stiff brush, working the primer well into the substrate at a coverage rate of 0.3 kg/m<sup>2</sup>.

### Application

Arrange enough material, manpower and equipment to carry out the application within the resin pot life. The base and hardener components of EstoWrap Encapsulation Resin should be mixed as per mixing instruction of EstoWrap Primer.

Apply the EstoWrap Resin to the primed surface, using roller at the rate of 0.6 kg/m<sup>2</sup>. Immediately after application of the resin, the pre-cut EstoGlass Fabric Sheet (maximum 4m length) should be applied using rubber or plastic scraper.

Remove the release paper from the EstoGlass Fabric Sheet and roll it with an impregnation roller in a direction parallel to the fibres in the carbon sheet.

After 30 minutes of the impregnation and within 3 hours, apply a second coat of EstoWrap Resin at a coverage rate of 0.6 kg/m<sup>2</sup> to completely encapsulate EstoGlass Fabric Sheet.

Following cure of the second application of EstoWrap Resin, apply Estotect PU finishing coat.

### Limitation

EstoGlass should be protected via over coating with a PU based UV resistant coating within 6 months

### Packing And Size

EstoWrap Encapsulation Resin and Primer  
15 kg set (hardener 5 kg, base 10 kg)

EstoGlass Fiber Sheet  
EstoGlass 450 = 50 cm (W) X 80m (L) / roll  
EstoGlass 900 = 50 cm (W) X 40 m (L) / roll

### Coverage

EstoWrap Primer 0.3 kg/m<sup>2</sup>  
EstoWrap Encapsulation Resin 0.6kg/m<sup>2</sup>/coat

### Technical support

Estop offers a technical support package to specifiers, end-users and contractors, as well as on site technical assistance.

### Storage

EstoWrap Primer and Estowra Encapsulation Resin should be stored on pallets in dry conditions. Under these conditions the product will have a shelf life of 12 months. If stored in extreme weather condition the shelf life may be reduced. However, EstoWrap Carbon Fiber Sheet have an unlimited shelf life but must be stored in dry condition.

### Additional information

Estop manufactures and offer a wide range of complementary products which includes waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available

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## 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.*