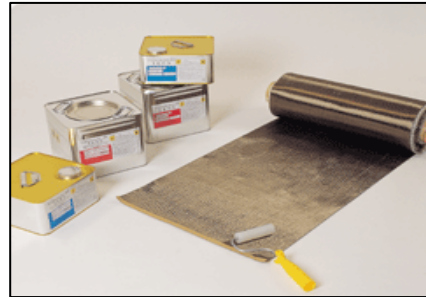


**Basalt Fiber Reinforced for Fabric Sheet  
Weight Content with 250g/m<sup>2</sup> or 300g/m<sup>2</sup>**

**Tensile Modulus 90 Gpa,  
Tensile Strength 2500 Mpa**

**Strengthening System for Buildings & Bridges Structures or Timber Woods**



**Build Wrap Basalt, Standard Tensile Strength & Tensile Modulus, Basalt Fiber [Wrap] Roll Size**

**BASALT FIBER Build Wrap Basalt®** is a fabric sheet of longitudinal oriented, continuous basalt fiber filaments which are held in position by a lightweight, open mesh, glass scrim. **Build Wrap Basalt®** has robust handling and rapid wet-out characteristics which make it ideal for on-site strengthening of structural of buildings, bridges, beams, columns and marine structures. Additionally, **Build Wrap Basalt®** is compatible with all commonly used resin systems which can be applied using a variety of wet-out/resin infusion techniques.

**Key Properties** High Modulus, High Thermal Conductivity, Light Weight, Electrical Conductivity, Excellent Fatigue Resistance, Excellent Corrosion Resistance, Low Friction and Wear, Low Thermal Expansion, Resistance to High Temperatures, Good Creep and Damping Properties, Transparent to X-Rays

**“Build Wrap Basalt®” Basalt Fiber Physical Properties**

Products Grade	Build Wrap Basalt® 250		Build Wrap® Basalt® 300	
	Basalt Fiber Weight	250	g/m <sup>2</sup>	300
Glass Scrim Weight	10	g/m <sup>2</sup>	15	g/m <sup>2</sup>
Total Product Weight	260	g/m <sup>2</sup>	315	g/m <sup>2</sup>
Roll Width	500	mm	500	mm
Roll Length	100	meter	100	meter
Sheet Thickness	0.091	mm	0.110	mm
Total Roll Weight	13.00	Kg	15.75	kg

**Specification Properties Data Sheet**

**“Build Wrap Basalt®” - Basalt Fiber Properties**

Typical of Fiber Properties	SI / Units UK design		US / Units US design	
	Tensile Strength	2,500	Mpa	362,500
Tensile Modulus	90	Gpa	12.84 x 10 <sup>6</sup>	psi
Ultimate Elongation	2.80	%	2.80	%
Density	2.74	g/cm <sup>3</sup>	0.0984	lb/in <sup>3</sup>

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## **Application Method**

### **Surfaces Preparation**

Reinforced concrete surfaces shall be clean, structurally sound and free from foreign materials, contaminants, oily and other debris. Concrete surfaces shall not more than 4% moisture content and the temperature of the substrate must be at least 3 °C which above, the current dew point temperature.

Reinforced concrete surfaces shall be clean, structurally sound and free from foreign materials, contaminants, oily and other debris. Concrete surfaces shall not more than 4% moisture content and the temperature of the substrate must be at least 3 °C which above, the current dew point temperature.

For filing surface irregularities such as blowholes, honeycombs & etc. Please hacking or cutting – off unloose concrete, air blowing those dust, and clean all concrete surfaces, keep over night for dry.

Using patching method of Polymer Cementitious Mortar or pumping of High Strength Cementitious Grout. But only for concrete surfaces cracks 0.25mm, must be injected with Low Viscosity of Epoxy Resin for filled. Using high pressure Air-Less Pump for injecting and penetration into structural crack lines, to achieve load bearing and adhesion bonding system.

Once patching, pumping or injecting works have been done, before laying Carbon Fiber Fabric Sheet, all surfaces must be Hammer Test for Polymer Cementitious Mortar, High Strength Cementitious Grout and Pull-Off Test for Cracks Lines. For achievement of strength requirement please consult your local Engineer.

### **Over Head Application**

#### **Vertical Application**

Applied on Over Head or Vertical Beam and Slab, either Primer, Adhesive & Resin, Waste of materials are approximately 15%.

### **IMPORTANT**

**All reinforced structural corners must be rounded to a radius of at least 15mm, before laying the Glass Fiber.**

### **Mixing of Primer**

Use a low speed (300 to 500 rpm) electric drill fitted with a paint mixer or a wing type paddle Pour one unit of Part A & B into drum and mix for at least 3 minutes until the mix is uniform and free. Note: Once been mixed, the Primer must be applied within 30 minutes of Pot Life.

### **For Uneven Surfaces**

#### **Mixing of Paste Putty**

Use a low speed (300 to 500 rpm) electric drill fitted with a paint mixer or a wing type paddle. Pour one unit of Part A & B into drum and mix for at least 5 minutes until the mix is uniform and free. Note: Once have been mixing, the Paste Putty must be applied within 60 minutes of Pot Life.

### **Mixing of Resin**

Use a low speed (300 to 500 rpm) electric drill fitted with a paint mixer or a wing type paddle. Pour one unit of Part A & B into drum and mix for at least 3 minutes until the mix is uniform and free. Note: Once have been mixed, the Epoxy Resin or Polyurethane Resin must be applied within 60 minutes of Pot Life.

**Easy Installation**

The easy to use Glass Fiber system components assure fast, user friendly installation. A complete system is installed in only six (6) steps to properly prepared surfaces within appropriate working conditions.

**System Recommended  
Use Resin Component**

**Epo Bond CF** is Epoxy Solvent Free (Bisphenol-F)  
Two Component of Part A & Part B.  
Suitable for applied on Over Head or Vertical or Horizontal Surfaces

**1. Roll "Epo Bond CF Primer"**

Apply **Epo Bond CF Primer**, at rate applied 0.20 kg/m<sup>2</sup> to 0.30 kg/m<sup>2</sup>, is a low viscosity of **Primer Resin** that can be applied using a roller. (Wait for ½ to 1 hours curing)

**2. Level Surfaces with "Epo Bond CF Adhesive"**

Apply **Epo Bond CF Adhesive**, at rate applied 1.5 kg/m<sup>2</sup> to 6.00/m<sup>2</sup>, paste adhesive is a high solids, non sag paste Epoxy Based or Polyurethane Based material that is applied using a squeegee or trowel to level uneven concrete surfaces. (Curing time: ½ hour to 4 hours depend of whether temperature)

**3. Apply First Coat of "Epo Bond CF or Epo Bond Paste"**

Apply **Epo Bond CF or Epo Bond Paste**, at rate applied 0.25 kg/m<sup>2</sup> to 1.00 kg/m<sup>2</sup>, is a high solids Epoxy Based or Polyurethane Based Resin, that can be applied using a roller to begin saturation of the fiber reinforcement sheet. (Curing time: ½ hour to 4 hours depend of whether temperature)

**4. Apply Glass Fiber fabric Sheet of "Build Wrap Basalt®"**

The backbone of the Basalt Fiber composite strengthening system, basalt fiber fabric sheet, is placed into the first layer of wet saturant and backing paper is removed. During the laying of Basalt Fiber Fabric Sheet, Keep the fiber direction properly.

**5. Apply Second Coat of "Epo Bond CF Epo Bond Paste"**

Apply **Epo Bond CF or Epo Bond Paste**, at rate applied 0.25 kg/m<sup>2</sup> to 1.00 kg/m<sup>2</sup>, is a high solids Epoxy Based or Polyurethane Based Resin, that can be applied using a roller to begin saturation of the fiber reinforcement sheet. (Curing time: ½ hour to 4 hours depend of whether temperature)

**6. Apply Optional Topcoat**

Where required, the Basalt Fiber high solids, high gloss, corrosion-resistant topcoat provides a protective/aesthetic outer layer. (Refer to Painting Manufacture)

**Note:** *In the case of two layers and several layers of "Build Wrap Basalt" Basalt Fiber Fabric Sheet. For multiple plies repeat steps 3, 4 and 5.*

**Remark:** *All direction of fiber overlapping must be at least 100mm*

**LaMaCo System Sdn Bhd**

407, Jalan Perusahaan 6, Taman Bandar Baru Mergong, 05150 Alor Setar, Kedah, Malaysia  
Tel : +60-4-771 1111 Fax : +60-4-772 4444 Http : [www.lamaco.com](http://www.lamaco.com)  
Email : [info@lamaco.com](mailto:info@lamaco.com)

## **Epo Bond® CF**

### ***Epoxy Resin Properties of Specification (Liquid Based: Solvent Free)***

<b>Compressive Strength</b>	<b>DIN 53454</b>	50 N/mm <sup>2</sup>
<b>Flexural Strength</b>	<b>DIN 53452</b>	37 N/mm <sup>2</sup>
<b>Tensile Strength</b>	<b>DIN 53455</b>	80 N/mm <sup>2</sup>
<b>Bonding Strength</b>		Excellent bond to structural
<b>Tension Elongation at Break</b>		6%
<b>Solid Volume</b>		100% High Solid Resin
<b>Viscosity</b>	<b>at 25 °C</b>	4000 (±550) mPa.s
<b>Density</b>	<b>at 25 °C</b>	1.02 g/cu. cm
<b>Pot Life</b>	<b>at 25 °C</b>	> 45 minutes until 60 minutes
<b>Cure Time</b>	<b>at 25 °C</b>	As pot life test method
<b>Specific Gravity</b>		1020 g/liter
<b>Flash Point</b>		> 200 °C
<b>Tear Resistance</b>		Excellent on External & Internal Layer
<b>Abrasion Resistance</b>		10 sec/1000 cycle, 0.01% Peeling of on Top Surfaces
<b>Fire Resistance</b>		Burning Test, Good Conditions of Class 0
<b>Coverage Thickness</b>		0.50 kg to 1.20 kg/m <sup>2</sup>
<b>Stability Under Heat</b>	<b>DIN 53458</b>	70 °C
<b>Glass Transition Temp</b>	<b>DIN 53445</b>	90 °C
<b>Shore A Hardness</b>		None
<b>Shore D Hardness</b>	<b>DIN 53505</b>	82-86%
<b>Packing</b>		10 kg/pail



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407, Jalan Perusahaan 6, Taman Bandar Baru Mergong, 05150 Alor Setar, Kedah, Malaysia  
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## Epo Bond® Paste

### *Epoxy Resin Properties of Specification (Paste Form: High Viscosity Solvent Free)*

<b>Compressive Strength</b>	<b>DIN 53454</b>	50 N/mm <sup>2</sup>
<b>Flexural Strength</b>	<b>DIN 53452</b>	37 N/mm <sup>2</sup>
<b>Tensile Strength</b>	<b>DIN 53455</b>	80 N/mm <sup>2</sup>
<b>Bonding Strength</b>		Excellent bond to structural
<b>Tension Elongation at Break</b>		6%
<b>Solid Volume</b>		100% High Solid Resin
<b>Viscosity</b>	<b>at 25 °C</b>	25000 (±550) mPa.s
<b>Density</b>	<b>at 25 °C</b>	0.97 g/cu. cm
<b>Pot Life</b>	<b>at 25 °C</b>	> 45 minutes until 60 minutes
<b>Cure Time</b>	<b>at 25 °C</b>	As pot life test method
<b>Specific Gravity</b>		970 g/liter
<b>Flash Point</b>		> 200 °C
<b>Tear Resistance</b>		Excellent on External & Internal Layer
<b>Abrasion Resistance</b>		10 sec/1000 cycle, 0.01% Peeling of on Top Surfaces
<b>Fire Resistance</b>		Burning Test, Good Conditions of Class 0
<b>Toxicity</b>		Essentially non-toxic in cured fabricated panel
<b>Coverage Thickness</b>		0.75 kg to 2.00 kg/m <sup>2</sup>
<b>Stability Under Heat</b>	<b>DIN 53458</b>	70 °C
<b>Glass Transition Temp</b>	<b>DIN 53445</b>	90 °C
<b>Shore A Hardness</b>		None
<b>Shore D Hardness</b>	<b>DIN 53505</b>	82-86%
<b>Packing</b>		5 kg/pail (Part A/2.95 kg & Part B/2.05 kg)



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## **Epo Bond® Primer**

### ***Properties of Specification***

	<b>Test Result</b>	<b>Cured Coating</b>	
<b>Compressive Strength</b>	<b>DIN 53454</b>	48 N/mm <sup>2</sup>	
<b>Flexural Strength</b>	<b>DIN 53452</b>	36 N/mm <sup>2</sup>	
<b>Tensile Strength</b>	<b>DIN 53455</b>	72 N/mm <sup>2</sup>	
<b>Bonding Strength</b>		Excellent bond to structural	
<b>Tension Elongation at Break</b>		2%	
<b>Solid Volume</b>		100% High Solid Resin	
<b>Viscosity</b> at 25 °C		3500 (±250) mPa.s	
<b>Density</b> at 25 °C		1.02 g/cu. cm	
<b>Pot Life</b> at 25 °C		> 25 minutes until 60 minutes	
<b>Cure Time</b> at 25 °C		Dust-dry Time: 1.5 hours	Full Cured: 4 hours
<b>Specific Gravity</b>		1020 g/liter	
<b>Flash Point</b>		> 200 °C	
<b>Tear Resistance</b>		Excellent on External & Internal Layer	
<b>Abrasion Resistance</b>		10 sec/1000 cycle, 0.01% Peeling of on Top Surfaces	
<b>Fire Resistance</b>		Burning Test, Good Conditions of Class 0	
<b>Coverage Thickness</b>		0.15 kg to 0.50 kg/m <sup>2</sup>	
<b>Stability Under Heat</b>	<b>DIN 53458</b>	70 °C	
<b>Glass Transition Temp</b>	<b>DIN 53445</b>	90 °C	
<b>Shore A Hardness</b>		None	
<b>Shore D Hardness</b>	<b>DIN 53505</b>	75%	
<b>Packing</b>		5.00 kg/pail	



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