

BBW™

Bidirectional Basalt Wrap



Building
&
Transportation



Oil, Gas
&
Industrial



Offshore
&
Onshore



Water
&
Wastewater



PRODUCT DESCRIPTION

CTech-LLC® BBW™ is bidirectional basalt wrap manufactured from basalt roving, an environmentally friendly product made from continuous basalt fiber.

BBW™ bidirectional basalt wrap is similar to carbon fiber and fiberglass, but basalt fabric has better mechanical properties than fiberglass and is lower in cost than carbon fiber.

The BBW™ is compatible with many resins - unsaturated polyester, vinyl ester, epoxy, phenolic, etc. The product is environment friendly and can be recycled.

ADVANTAGES

- Compatible with many resins - unsaturated polyester, vinyl ester, epoxy, phenolic, etc.
- Corrosion resistant
- Chemical durability
- Low heat conductivity
- High electrical resistance
- Low heat conductivity
- Durability
- Handling with conventional cutting tools
- Shock resistance
- Easy recyclability

TYPICAL USES

BBW™ bidirectional basalt wrap is used as reinforcing materials in the manufacture of various structures in aircraft, shipbuilding, auto- and other industries, containers for aggressive environments, manufacture of fireproof curtains and products for heat-insulation.

Also BBW™ bidirectional basalt wrap is the best alternative to carbon fiber applied in the bridge, construction reinforcement and repair.

DESIGN

Design calculations shall be made and sealed by a licensed, independent engineer knowledgeable with the design of FRP strengthening systems.

INSTALLATION PROCEDURE

Installation of CTech-LLC® basalt fabrics should be performed by licensed and specially trained groups of installers. The Installation must

be compatible with existing relevant international codes. This section outlines the procedure to install CTech-LLC® Bidirectional Basalt Wrap (BBW™).

PREPARATION OF SUBSTRATE

- Substrate preparation can highly effect on the quality of the performance of BFRP systems.
- All the surfaces must be cleaned from dirt, grime, dust, curing compounds, oils, grease, waxes and all the other contaminated materials which may cause voids behind the CTech-LLC® composites.
- Repair mortar must be used to repair all the eroded or damaged concrete surfaces.
- An industrial vacuum cleaner must be used to remove dust and dirt.
- All the surfaces need grinding, Sandblasting, shot blasting, pressure wash or other common mechanical methods to reach an even Substrate.
- The sharp edges must be smooth and rounded to a minimum radius of 30 mm.
- Note that concrete surfaces must be fully dried or cured so adhesive can properly dry.

MIXING

Epoxy resins (or other resins) are required to make BFRP systems. Epoxy compounds are usually supplied in two different containers. Before pouring the contents of component B into contents of component A, each part should be stirred separately to avoid deposit in container. Then part A and B should be mixed

together depending on the required quantity. Process of mixing should take 3-5 minutes with a low speed mixer.

TECHNICAL DATA

	Unit	BBW™400	BBW™600	BBW™800
Area Weight	g/cm ²	400	600	800
Strength force (Weft)	$\frac{N}{(25mm \times 200mm)}$	≥1870	≥1870	≥1870
Strength force (Warp)	$\frac{N}{(25mm \times 200mm)}$	≥1600	≥1600	≥1600
Thickness	mm	0.35	0.5	0.65
Diameter	μm	10	10	10

TREATMENT

Basalt fabrics can be cut with knives, commercial quality heavy-duty scissors, and rulers. These are proper tools for cutting BFRP systems to obtain an ideal length and width. Any of the other cutting instruments can damage the fabrics.

APPLICATION

The substrate must be clean and eroded or damaged concrete surfaces must be repaired by CTech-LLC® epoxy mortar. Cover the substrate with suitable form of ERP™ epoxy primer. Saturate the fabrics by a mechanical saturator. The saturator controls fiber-resin ratio in operation and converts basalt and fibers into prepreg fabrics, so they can be used instantly on the surface of different elements. Installation of all the layers of saturated fabrics must be done according to the design requirements. If required, additional fabrics can be used on top of previous layers. Using a roller can ensure all pockets are removed between fabric and substrate and there is a good bonding between them. This process should be performed by licensed and specially trained groups of installers.

PROTECTIVE COATINGS

A protective coating must be applied on the surface of FRP system. The coating should be non-vapor-barrier and complies with the FRP system. Plaster final coating, paint final coating and fireproofing coating are three common methods which can be used to make barrier between damaging environment and structures. Painting should be

done between 24 to 72 hours after final application of epoxy. The protective coating can protect surface against corrosion, decaying, cracking, chipping, fading and other typical problems which may happen for the structure.

STORAGE & SHELF LIFE

BBW™ bidirectional basalt wrap should be stored in a dry, cool and rain-proof area.

CAUTION

All components of FRP systems may cause skin irritation and sensitization. Use of chemical resistant gloves is recommended. Avoid breathing vapors and dust. Get medical attention if you are breathing with difficulty. Resins products can cause strong eye irritation. Avoiding eye contact and Using safety goggles is necessary.

CTech-LLC®

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IMPORTANT NOTE:

Before using any CTech-LLC® product, the user must review the most recent version of the product's technical data sheet, material safety data sheet and other applicable documents, available at www.ctech-llc.com.

WARANTY:

CTech-LLC® warrants its products to be free from manufacturing defects. Buyer determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to replacement of product. Any claim for breach of this warranty must be brought within one month of the 'date of purchase. CTech-LLC® shall not be liable for any consequential or special damages of any kind, resulting from any claim or breach of warranty, breach of contract, negligence or any legal theory. The Buyer, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before utilizing.