

GFCM™

Glass Fiber Chopped Strand Mat



Building
&
Transportation



Oil, Gas
&
Industrial



Offshore
&
Onshore



Water
&
Wastewater



PRODUCT DESCRIPTION

CTech-LLC[®] E-glass Chopped Strand Mat (**GFCM™**) is composed of chopped glass fiber strands in specified length randomly & evenly distributed on conveyor, bonded together by emulsion binder and cut into certain widths & lengths after heat forming.

Chopped strand mats are applicable primarily for hand lay-up, filament winding and press molding of FRP parts.

With many excellent characteristics and compatibility with different resin systems, GFCM™ have been used to provide superior performance in a broad range of end-use markets such as automobile, recreation, construction, chemical and electrical industries.

ADVANTAGES

- Rapid resin impregnation and easy air removal.
- Excellent thickness uniformity.
- Maximum molding productivity and reduced cost.
- Excellent strand distribution.
- Good mechanical properties.
- Multi-resin-compatible.
- Easy handling and better appearance of finished product.
- **GFCM™** presents significantly corrosion resistance across a wide range of aggressive environments.

TYPICAL USES

CTech-LLC[®] E-glass Chopped Strand Mat (**GFCM™**) is designed for use with different resin systems to manufacture wide range of products including automotive parts, boats, chemical tanks and pools.

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[®] E-glass chopped strand mat 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[®] E-glass Chopped Strand Mat (**GFCM™**).

PREPARATION OF SUBSTRATE

- Substrate preparation can highly effect on the quality of the performance of FRP 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

Polyester, vinyl ester or epoxy resins are required to make FRP systems. Depending on the required quantity, mix resin components using recommended procedures on product datasheet.

TREATMENT

E-glass chopped strand mat can be cut with knives, commercial quality heavy-duty scissors, and rulers. These are proper tools for cutting FRP 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[®] repair mortar. Cover the substrate with suitable form of CTech-LLC[®] primer. Saturate the fabrics by a mechanical saturator. 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.

with difficulty. Resins products can cause strong eye irritation. Avoiding eye contact and Using safety goggles is necessary.

TECHNICAL DATA

| | Unit | GFCM™225 | GFCM™300 | GFCM™450 |
|------------------|--------------------|----------|----------|----------|
| Area Weight | g/m ² | 225 | 300 | 450 |
| Density | gr/cm ³ | 2.55 | 2.55 | 2.55 |
| Color | - | White | White | White |
| Width | cm | 100 | 100 | 100 |
| Penetrating Time | sec | 45-90 | 45-90 | 45-90 |
| Moisture Content | % | ≤0.2 | ≤0.2 | ≤0.2 |
| Loss on Ignition | | 1.05 | 1.05 | 1.05 |

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 witch can be used to make barrier between damaging environment and structures. Painting should be done between 24 to 72 hours after final application of resin. 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

- GFCM™ chopped strand mat should be stored at +4°C to +40°C. Keep the product in a dry place.
- Shelf life if stored correctly up to 10 years.

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

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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.