HORSE CONSTRUCTION

HM-CFG
CARBON FIBER POLYMER GRID

Description

HM-CFG is net alike strengthening fabric which made of carbon fiber tow. As the substitutes of steel mesh, it can be used together with epoxy motar to seal and control the crack, and improve the load capacity of the original structurers

Application Range

Load Increase

- Increased live loads in warehouses
- Increased traffic volumes on bridges
- Vibrating structures
- Changes of building utilization

Improve Usability

- Control structural deformations
- Seal the crack and prevent crack again

Structural strengthening

- Inprove capacity of openning slab, wall hole
- Deflection reinforcement of structural members

Change in Structural Parts

- Removing of wall or columns
- Removal of slab section for openings

Design or Construction Defects

- Insufficient reinforcements
- Insufficient structural depth

Advantages

- Light weight, only 1/5 of steel mesh, easier apply.
- High strength, single fiber strength is 5-7 times than normal steel
- Good toughness, suitable for unsmoothly or masonry surface
- Can apply in moisture surface
- Acid, alkali & salt resistance
- Can be used for shear strengthening, confinement strengthening, flexural strengthening
- Alkali Resistant

Horse Advantage

Aviation Grade Yarn

- Select the international high-quality aviation grade yarn, over 5000meters.

World Leading Production Line

- No damage to the yarn during the weaving process.
- Good compatiblity performance with any motar
- Various size for selects, and can be customized as per requests

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Horse Advantage

Patented Tension Controling System

- Our own independent developed whole process tension controling system

Large production capacity

- 20 thousands square meters annual production capacity
- 10 thousand square meters regular daily stock

Package

This product packed by carton package

1 roll in 50sqm pack as 1 carton. Regular with: 1m, length: 50m

Basic Information

Model	HM-CFG
Appreance	Black fabric
Length	50m
Width	Regular width is 1000mm, other width can be customized.
Shelf Life	10 years
Storage Conditions	Store in dry conditions at 40°F to 95°F (4°C to 35°C)
Braiding	0° (Unidirectional)
Areal Weight	200g/m^2

Typical Fiber Properties

Dry Fiber Typical Properities

Stand Value of Tensile Strength	4900MPa
Tensile Elastic Modulus	234GPa
Elongation	1.70%

Carbon fiber grid performance

Tensile strength of the warp per unit of width	31KN/m
Tensile strength of the weft per unit of width	31KN/m
Elongation of the warp tow	≥4%
Elongation of the weft tow	≥4%
Interlaminar Shear Strength	45MPa
Density	1.82g/cm^3
Fiber Thickness	0.047mm

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Construction Process

1. Surface Preparing:

Remove the coating of concrete surface with grinder. Polishing the Surface. If there is angular, grinder it into round, radius is around 25mm

2. Setting out:

After setting out, cut the HM carbon fiber grid based on request

3. Blending Motar

Blending the epoxy or polymer motar, mix it evenly.

4. Interface coating

Spraying HM motar to the surface of structurer evenly, thickness should be around 5-10mm

5. CFG fixing

Stick the carbon fiber grid into the lay out area, the gap is not allowed between the substrate and CFG

6. Impregnated coating

Coating the HM motar on the carbon fiber grid, thickness around 15mm-30mm

7.Applying Impregnation Adhesive:

Apply impregnation adhesive when primer adhesive is touch dry.

8. Maintance

After the application, the maintain time not less than 72hours

9. Check Gap or Bubble:

Check if any gap or bubble inside, if have need to repair it with additional motar.

Points for Attention

The construction workers should take protective measures such as wearing masks, gloves, goggles etc.

Pay attention to fire prevention and maintain good ventilation on site.

Carbon fiber material is conductive, be careful to the electrical equipments around.

For more information, please visit our website at www.horseen.com

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