**Horse HM-1.2T**

**Unidirectional Carbon Fiber Laminate For Strengthening**

<table>
<thead>
<tr>
<th>Description</th>
<th>HM-1.2T is a high strength, high modulus unidirectional carbon fiber reinforce polymer (CFRP) for structural strengthening. It is bonded onto the structure as external reinforcement using HM-120CP epoxy resin as the adhesive.</th>
</tr>
</thead>
</table>

| Application Range | ■ Load Increase  
Increased live loads in warehouses  
Increased traffic volumes on bridges  
Installation of heavy machinery in industrial buildings  
Vibrating structures  
Changes of building utilization  
■ Seismic Reinforcement  
Concrete column wrapping, beam strengthening, wall strengthening, slab strengthening  
Masonry walls reinforcement  
■ Damage to Structural Parts  
Aging of construction materials  
Fire  
Vehicle impact  
■ Change of Structural System  
Removal of walls or columns  
Removal of slab sections for openings  
■ Design or Construction Defects  
Lack of reinforcing bars  
Lack of member cross section  
■ Improve Structural State  
Reduce the deformation  
Reduce the stress of the original structure  
The crack reinforcement |
Package

This product is rolled into a ring and uses a belt to bind. Each roll is 100 meters length. When the laminate width is 50mm, two rolls will be put into one carbon box; When the width is 100mm, one roll in one carbon box;

Product Characteristic

- High strength, high toughness, high modulus
- Soft and flexible, light self weight, easy to install
- Long shelf life and aging resistance
- High temperature resistance
- Acid, alkali & salt resistance
- Seismic resistance
- Environmental-friendly
- Can be used for shear strengthening, confinement strengthening, flexural strengthening

Horse Advantage

- Aviation Grade Yarn
  Japan imported aviation grade raw material, excellent quality and stable performance.

- World Leading Production Line
  Germany imported intelligent production line. Point to point active weft insertion. No damage to the yarn during the weaving process. Excellent flatness enable epoxy easy to penetrate, hence high bonding strength can be achieved.

- Patented Tension Controlling System
  Our own developed whole process tension controlling system. It ensures the constant tension, low dispersion.

- Large output and Timely Delivery
  5 million square meters annual output. 100 thousand square meters regular daily stock.
Basic Information

Model        HM-1.2T
Appearance    Black laminate
Length        100m
Width         Regular width is 50mm, 100mm, other width can be customized.
Shelf Life    50 years
Storage Conditions Store in dry conditions at 4°C to 35°C
Braiding      0° (Unidirectional)

Performance Indexes

The results are tested by Syracuse University USA according to ASTM standards. Original test reports available.
For more about ASTM (American Society for Testing Materials), please refer to https://www.astm.org

<table>
<thead>
<tr>
<th>Performance Index</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength (ASTM D3039)</td>
<td>2743 Mpa</td>
</tr>
<tr>
<td>Tensile Modulus (ASTM D3039)</td>
<td>171 Gpa</td>
</tr>
<tr>
<td>Elongation at Break (ASTM D3039)</td>
<td>0.015</td>
</tr>
<tr>
<td>Flexural Strength (ASTM D7264)</td>
<td>2164 Mpa</td>
</tr>
<tr>
<td>Thickness</td>
<td>1.2mm</td>
</tr>
<tr>
<td>Temperature Resistance</td>
<td>&gt;150°C</td>
</tr>
<tr>
<td>Fiber Content</td>
<td>(\geq 65%)</td>
</tr>
<tr>
<td>Density</td>
<td>1.6g/cm³</td>
</tr>
</tbody>
</table>
Construction Process

1. Setting out according to design;

2. Remove painting of the concrete surface and polish, blow out the floating dust with compressed air;


4. Installing: Paste the epoxy onto the surface of carbon fiber plate evenly, please avoid bubbles;

5. Anchorage: Paste the carbon fiber plate onto the concrete surface and fixed with steel strip, remove extra epoxy near the plate, and fix with steel framework;

6. Maintenance: Waiting for the epoxy to cure, curing time should be no less than 24 hours at room temperature.

Points for Attention

The construction workers should take necessary 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 https://www.horseen.com