FRP 120 HT
High-Strength Epoxy Adhesive

Description
Advanced FRP Systems' FRP 120 HT is a was engineered to provide exceptional adhesion values to blasted steel. It is designed specifically as a high strength structural adhesive and tack coat for high temperature and high pressure composite applications. The enhanced adhesion strength is recommended for composite applications with isolated adhesion zones, substrates with cathodic protection, as well as any composite reinforcement operating above 250 psi design pressure.

Product Advantages
- Zero VOC Epoxy
- Outstanding adhesion to concrete, steel, masonry, wood and composites
- Highly blush resistant formulation
- Easy to apply with roller
- Moisture Tolerant epoxy
- Low Coefficient of Linear Thermal Expansion
- Good Elongation

Suggested Application
FRP 120 HT is used to assist in application of carbon and glass fiber reinforcement used in high pressure applications or anywhere that additional adhesion is required. It provides over 4,000 psi adhesion to blasted steel and is compatible with a variety of composite reinforcement and coating options.

Performance Data

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to Concrete</td>
<td>ASTM D4541</td>
</tr>
<tr>
<td>Adhesion to Steel</td>
<td>ASTM D4541</td>
</tr>
<tr>
<td>Heat Distortion Temperature</td>
<td>ASTM D648</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Modulus</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>ASTM D790</td>
</tr>
<tr>
<td>Elongation at Break</td>
<td>ASTM D638</td>
</tr>
</tbody>
</table>

Product Characteristics

Finish: High Gloss
Color: Clear (milky)
Volume Solids: 100%
Density: 1.09 g/mL
Mix Ratio (by wt.): 2.5:1
Mix Ratio (by vol.): 2.3:1
Approx. Coverage: 160 sqft/gallon at 10 mils
Working Time: 60 minutes at 75 °F
Maximum Film Build: 10 mils per coat
Application Temperatures: 50 - 105 °F
Sold FOB Weymouth, MA

FRP 120 HT is sold in ½, 1, 2, and 4 gallon units. Other unit sizes may be available.
Cure Schedule

<table>
<thead>
<tr>
<th>Cures for Application</th>
<th>50 °F (10 °C)</th>
<th>75 °F (24 °C)</th>
<th>100 °F (38 °C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tacky Window</td>
<td>1 – 8 hours</td>
<td>30 min. – 4 hours</td>
<td>15 min – 2 hours</td>
</tr>
<tr>
<td>Dry to Touch</td>
<td>10 hours</td>
<td>6 hours</td>
<td>3 hours</td>
</tr>
<tr>
<td>Dry Hard</td>
<td>48 hours</td>
<td>24 hours</td>
<td>12 hours</td>
</tr>
<tr>
<td>Overcoat Window</td>
<td>0 – 128 hours</td>
<td>0 – 96 hours</td>
<td>0 – 48 hours</td>
</tr>
<tr>
<td>Cures for Service</td>
<td>50 °F (10 °C)</td>
<td>75 °F (24 °C)</td>
<td>100 °F (38 °C)</td>
</tr>
<tr>
<td>Return to Service</td>
<td>N/A hours</td>
<td>24 hours</td>
<td>12 hours</td>
</tr>
<tr>
<td>Full Mechanical Strength</td>
<td>N/A hours</td>
<td>120 hours</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

If FRP 120 HT is no longer tacky enough to support reinforcing fabric, simply reapply another layer of FRP 120 HT. No additional surface prep is required if within the overcoat window.

Application Information

All Advanced FRP Systems products should be installed by a certified applicator or with direct oversight by Advanced FRP Systems, Inc. This data sheet provides general application guidelines for FRP 120 HT.

Contact Advanced FRP Systems for more information if your project has detailed coating specifications.

Ensure air and substrate temperatures are between 50 – 105 °F and relative humidity is below 95%. Follow surface preparation guidelines prior to coating.

Heavily pitted areas must be filled with FRP Repair Putty or other Advanced FRP resurfacing material prior to applying composite reinforcements.

Pour all of Part A – Hardener into Part B – Base and mix with low speed power agitator for 2-3 minutes. Using a paint stick or spatula, thoroughly scrape sides and bottom of unit. Mix with power agitator for an additional 2 minutes. Do not dilute any Advanced FRP products.

FRP 120 HT can be applied via brush, roller, or airless spray equipment. Consult Advanced FRP Application Guidelines for information on spraying FRP 120 HT.

FRP 120 HT should be applied at 5 – 10 mils in a single coat or according to the specification for your project. A second coat can be applied if the material losses its tackiness prior to applying reinforcing fabric.

While FRP 120 HT is required for vertical and overhead applications to hold the reinforcement in place, it will also increase the overall adhesion value of the composite reinforcement in all areas. We strongly recommend applying FRP 120 HT, prior to applying reinforcement, over the entire substrate for optimal results.

Surface Preparation

Composite reinforcement requires a smooth surface without gaps and voids for full effectiveness. Use FRP Repair Putty or Ceramic Repair Putty to fill any holes, voids, and smooth weld seems.

High Pressure Applications on Steel (Wet Layup): Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe. Grit blast the surface to an SSPC-SP 10 Near White Metal finish with a minimum angular surface profile of 3.0 mils. Remove dust and debris prior to applying.

Low Pressure Applications on Steel (Wet Layup): Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe. Minimum surface preparation of SSPC-SP 2 Hand Tool Cleaning must be performed. For enhanced performance, an SSPC-SP 6 Commercial Blast Cleaning with an angular surface profile of 1.5+ mils should be used.
Concrete (Wet Layup): Refer to SSPC-SP 13 or ICRI No. 310.2, CSP 1-3 for concrete preparation guidelines. Surface should be thoroughly cleaned and dry. Concrete and mortar must be cured at least 28 days @ 75 °F. Surface must be free of laitance, concrete dust, dirt, form release, curing aids and other foreign material. Advanced FRP Sealer 200, penetrating concrete primer, is recommended to increase adhesion and strengthen concrete prior to installing reinforcement.

Storage and Shelf Life
FRP 120 HT must be stored between 45 – 110 °F, out of direct sunlight. If stored in these conditions, the product will have a 12-month shelf life.

Safety Precautions
Please consult up-to-date Safety Data Sheets (SDS’s) prior to use. An SDS should be available on site whenever Advanced FRP products are being used.

Warranty Information
Advanced FRP Systems, Inc. warrants that our products are free of manufacturing defects in accordance with applicable Advanced FRP quality control parameters. Liability for products proven defective, if any, is limited to replacement of defective product or refund of purchase price as determined by Advanced FRP Systems. Additional warranties and protection are available. Contact Advanced FRP for more information.

Disclaimer
The information and recommendations set forth upon this data sheet are based on years of laboratory and field analysis. This information is intended to be used as guidance only as many factors affect the performance of polymeric systems. Actual exposure conditions are the best test of suitability and Advanced FRP Systems will generally provide complimentary samples for field testing.

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