

# 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
- Excellent initial green strength
- 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

	Test Method	Results
<b>Adhesion to Concrete</b>	ASTM D4541	>750 psi
<b>Adhesion to Steel</b>	ASTM D4541	>4,000 psi
<b>Heat Distortion Temperature</b>	ASTM D648	297 °F
<b>Tensile Strength</b>	ASTM D638	13,100 psi
<b>Tensile Modulus</b>	ASTM D638	479 ksi
<b>Flexural Strength</b>	ASTM D790	12,800 psi
<b>Flexural Modulus</b>	ASTM D790	398 ksi
<b>Elongation at Break</b>	ASTM D638	9.4%

### Product Characteristics

**Finish:** High Gloss

**Color:** Clear (milky)

**Volume Solids:** 100%

**Mix Ratio (by wt.):** 2.5:1

**Mix Ratio (by vol.):** 2.3:1

**Density:** 1.09 g/mL

**Approx. Coverage:** 160 sqft/gallon at 10 mils

**Maximum Film Build:** 10 mils per coat

**Working Time:** 60 minutes at 75 °F

**Application Temperatures:** 50 - 105 °F

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

**Sold FOB Weymouth, MA**

## Cure Schedule

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

***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 loses 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 seams.

**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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