



180° Peel Test for Eclectic Products, Inc. FRP Industrial Strength Adhesive

Material Tested:

Aristone® Designs, Inc.
GFRC (Glass Fiber Reinforced Concrete Substrate)

For:

EPI and Customer Evaluation

Eugene, OR / September 2007

Test Method:

180° Peel Test based on ASTM D 903, “Standard Test Method for Peel or Stripping Strength of Adhesive Bonds”, was used to evaluate the performance of EPI’s FRP Adhesive on Aristone’s GFRC (Glass Fibers Reinforced Concrete) and Tiles. The test was performed on reinforced concrete tiles using ½” wide cotton tape bonded with the EPI’s FRP adhesive. Determinations of the maximum load strength (lbf/in) averages (based on five measurements) of each tile were measured based on separation of at least 4 inches of the bonded area on each sample. The testing machine used in the test was Instron’s constant-rate-of-extension tensile testing machine. The tensile testing machine was calibrated prior to testing. The constant-rate-of-extension was set at 6.0 in/min for all tests. A fixture was designed to firmly contain the tiles while in the testing process.

Application of Adhesives to Substrates:

Split Column:

A split column provided by Aristone was put together using EPI’s FRP Adhesive. The glued column was kept under pressure using plastic straps for 12 hours. The excess glue was sanded down and the glued column was sent back to Aristone for evaluation.

Tiles:

A generous amount of approximately 4.0 grams of EPI's FRP adhesive was applied to 6.0 inches of the 1/2" wide cotton tape. The adhesive was then immediately dragged across the surface of the tape in order to provide a uniform distribution of 2.6 (±0.1) grams of adhesive. Seven tape specimens were then applied to GFRC tile and were individually smoothed down with the use of a light plastic roller to remove any air bubbles. It also helped distribute uniformity between the substrate and the adhesive.

Samples Conditioning:

All prepared samples were allowed to cure at an ambient temperature of 72° F for 4 days prior to testing.

1. Tile. One Aristone® GFRC (Glass Fibers Reinforced Concrete) were wiped with acetone, isopropyl alcohol and air-blown

Adhesives Used (identified from product label):

1. EPI's FRP Adhesive Sag-Resistant Formula: Formulated to meet high-performance industrial requirements.

Results:

Sample #	Maximum Load (pli)
-1	52
-2	73
-3	56
-4	62
-5	43
-6	72
-7	74
Average	62

Conclusion & Recommendation:

The data shows excellent peel strength between Eclectic Products, Inc. FRP adhesive and the Aristone® GFRC composite. We strongly recommend that Aristone® promotes EPI's FRP Adhesive for use with their GFRC columns & HB&G line if FRP columns.