

Job-Site Adhesion Testing

Information for use with GE Elemax* 2600 AWB

For uncommon materials or for substrates that are not listed as acceptable on current Momentive literature, testing should be performed to verify that acceptable adhesion can be attained. A common test method for validating adhesion performance of an air barrier to a substrate is ASTM D4541 “Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers”.

Standard adhesion test procedure (ASTM D4541)

D4541 requires the use of a force loading apparatus along with 1.5 to 4” (38 to 100 mm) diameter metal or wood pucks that are adhered to the air barrier. Pucks can be adhered to GE Elemax 2600 with GE Elemax 5000 liquid flashing, GE SilPruf silicone sealants, GE Iron Grip* adhesive or GE Silicone I* sealant. Adhesive tape may be utilized to temporarily hold pucks in place while curing. Allow sufficient cure time (typically 24-72 hours) prior to performing the test pull. A minimum value of 16 psi (110 kPa) has been established in the air barrier industry for acceptable adhesion. The pull test(s) should be photographed (or videotaped) for project records and/or proof of performance. Refer to ASTM D4541 for specific instructions pertaining to this procedure. Note: Non-destructive adhesive release of pucks greater than 16 psi (110kPa) is acceptable.

ASTM D4541 test apparatus and photos – for reference only





Alternate adhesion test procedure (similar to ASTM C794)

If the D4541 force loading apparatus is not available, then the following alternate adhesion test procedure can be utilized by embedding GE RF100 reinforcing fabric into GE Elemax 2600 AWB coating.

1. Prepare substrate surfaces in accordance with the product datasheet. The substrate should be clean, dry, structurally sound and free of loose particles, dirt, dust, rust, oil, frost, mildew, and other contaminants.
2. After substrate preparation, apply one coat (by spray, brush or roller) of GE Elemax 2600 AWB at approximately 20 wet mils.
3. While coating is still wet, embed 1-inch strip of reinforcing fabric into the coating leaving a tab accessible for hand pull.
4. After placement, immediately apply a second coat at approximately 20 wet mils to fully embed the fabric (photo 1 & 2). Allow an overnight cure (minimum) prior to performing the test pull.
5. Perform test by pulling the reinforcing fabric away from the surface at a 90 to 180 degree angle at a slow steady rate. Continue pulling until the coating tears cohesively or releases from the surface. (photo 3)
 - a. Cohesive failure of the coating (>75% of coating remains on substrate) represents acceptable adhesion. (photo 3)
 - b. A fish scale can also be utilized to perform peel adhesion testing. A minimum 5pli is required for acceptable adhesion. Cohesive failure is not required.
 - c. Coating that releases easily from the substrate represents poor adhesion and primer may be required in this case. Repeat test using GE primer; following instructions on the primer datasheet.
6. The pull test(s) should be photographed (or videotaped) for project records and/or proof of performance. Any suspect result should be reviewed with the Momentive representative prior to proceeding.



Photo 1



Photo 2



Photo 3