

TB #55 Field Adhesion Test Procedures

Field adhesion testing is always recommended to ensure quality job site application and surface preparation. Field adhesion testing, when carried out by an authorized field representative, will also serve as satisfying criteria for warranty purposes when required.

There are two types of tests that can be carried out, one being destructive, and the other non-destructive. For warranty purposes the destructive method is preferred. The destructive method consists of two procedures, method one being the measurement of cohesive vs. adhesive failure, and method two being measurement of elongation before failure. Destructive methods # 1 & # 2 can be used for warranty certification while the non-destructive method is not acceptable for warranty certification.

A.) **Destructive Method # 1** (warranty certification):

- 1) Make a knife cut horizontally from one side of the joint to the other.
- 2) Make two vertical cuts (from the horizontal cut) approximately three inches long on each side of the joint. (See Figure 1)
- 3) Pry out flap created from cuts as shown in Figure 1.
- 4) Firmly grasp flap and slowly pull at 90 ° from sealant plane.
- 5) Pull flap until adhesive or cohesive failure is achieved. Adhesive failure will be evidenced by the sealant pulling off clean from the substrate. Cohesive failure will be evidenced by the sealant ripping or failing within itself leaving well-adhered sealant to the substrate. When the seal is interfacing dissimilar materials a test should be run separately on either side of the joint. This would be accomplished by making a third vertical cut down the center of the sealant and testing each side separately. Cohesive failure is considered a positive result.

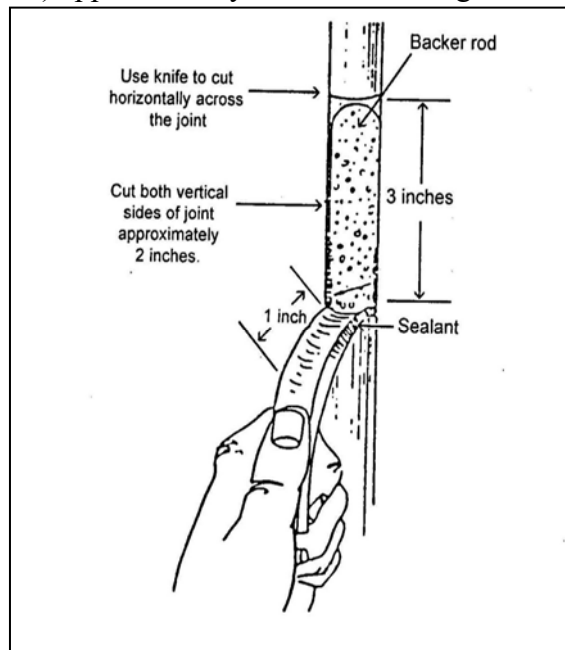


Figure 1

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B.) **Destructive Method # 2** (warranty certification):

This method is similar to the destructive method # 1 with the difference being the measurement of sealant elongation before failure.

- 1) Follow steps one through four of the destructive method.
- 2) Make a benchmark at one inch from the plane of the installed sealant.
- 3) While holding a ruler parallel to the sealant flap, firmly grasp the flap and pull slowly while noting the position of the benchmark on the ruler. Follow the table below for pass criteria. If no failure occurs prior to the extension factor listed below the test was successful. Extension factor will always be 2x the movement capability of the sealant.

Example Pass Criteria:

Product	Movement Capability, %	Pull in Inches	Extension Factor, %
Dynaflex	+/- 12.5	0.25	25
Dynatrol I-XL	+/- 25	0.50	50
AVW-920	+/- 25	0.50	50
Dynatrol II	+/- 50	1.0	100
864NST Silicone	+/- 50	1.0	100
895NST Silicone	+/- 50	1.0	100
300SL Silicone	+100 / -50	2.0	200
301NS Silicone	+100 / -50	2.0	200
890NST Silicone	+100 / -50	2.0	200
890FTS Silicone	+100 / -50	2.0	200

C.) **Non-Destructive Method:** (screening only):

- 1) Using a blunt object, with a diameter of at least 1/8 inch less than the width of the joint, depress the middle of the body of the sealant by at least 50% the width of the joint.
- 2) Observe sealant / substrate interface and note any delamination.

D.) **Further Observations:**

When performing destructive testing an inspection of the joint for proper backing material, complete fill, voids, and sealant width to depth ratios should also be carried out. All width to depth ratios should follow guidelines set forth in specific product Spec Data.

E.) **Report:**

Record all test results and observations on Technical Bulletin #55A Field Adhesion Test Log. The completed Field Adhesion Test Log should be submitted for warranty certification.

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