Standard field adhesion test

The field adhesion test is a simple screening procedure that may help detect application problems such as improper cleaning, use of improper primer, poor primer application or improper joint configuration. As a check for adhesion, a simple hand pull test is required at the job site after the sealant is fully cured (usually within 7 to 21 days.) Field adhesion testing should be documented using the Field Adhesion Testing Log. It is recommended that 10 tests for the first 300 meters (1000 feet) and one test per 300 meters (1000 ft) thereafter be submitted or one test per floor per elevation. The hand pull test procedure is as follows:

a. Make a knife cut horizontally from one side of the joint to the other.

b. Make two vertical cuts (from the horizontal cut) approximately 75 mm (3”) long, at both sides of the joint.

c. Place a 25 mm (1”) mark on the sealant tab as shown in the illustration.

d. Grasp 50 mm (2”) piece of sealant firmly just beyond the 25 mm (1”) mark and pull at a 90° angle.

e. If dissimilar substrates are being sealed, check the adhesion of sealant to each substrate separately. This is accomplished by extending the vertical cut along one side of the joint, checking adhesion to the opposite side, and then repeating for the other surface.

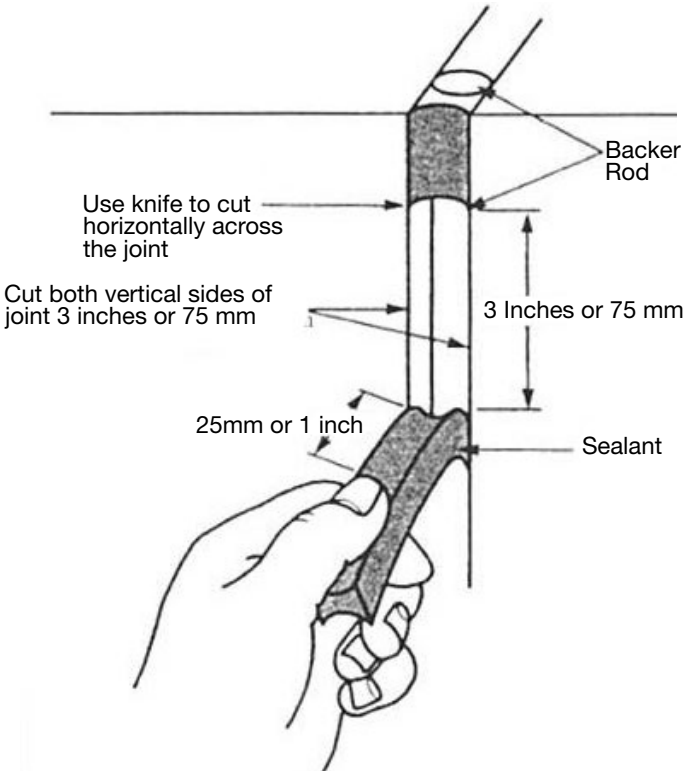
f. Pass/fail criteria for each sealant are shown in Table 1. If the sealant does not pass according to those guidelines, consult your local Dow application sales engineer or Distributor representative.

g. Inspect the joint for complete fill. The joint should not have voids, and joint dimensions should match those shown in the weathersealing details. Your Dow application sales engineer can assist in determining when corrective action is required.

h. Record the test results in a field adhesion test log. This log will need to be retained as a part of Dow’s warranty procedure in a project file that will be turned over to the building owner upon completion of the project.

NOTE: When a sealant is used to weatherseal between two dissimilar substrates, it is recommended that the sealant adhesion to each side of the joint be individually tested. (See step e.)

Field adhesion test – weatherseal joint



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Table 1 – Field adhesion hand-pull test criteria

DOWSIL™ Brand Building Sealant	Adhesion requirements
DOWSIL™ 756 SM Building Sealant	Pull tab 38 mm or 1½ in. (150% extension) without bond loss
DOWSIL™ 790 Silicone Building Sealant	Pull tab 75 mm or 3 in. (300% extension) without bond loss
DOWSIL™ 791 Silicone Weatherproofing Sealant	Pull tab 38 mm or 1½ in. (150% extension) without bond loss
DOWSIL™ 795 Silicone Building Sealant	Cohesive failure: no adhesion loss
DOWSIL™ 983 Silicone Glazing and Curtainwall	Cohesive failure: no adhesion loss
DOWSIL™ 991 Hi-Performance Sealant	Pull tab 38 mm or 1½ in. (150% extension) without bond loss
DOWSIL™ 995 Silicone Structural Sealant	Cohesive failure: no adhesion loss
DOWSIL™ 123 Silicone Seal	Cohesive failure of adhesive sealant: no adhesion loss
DOWSIL™ Parking Structure Sealants	Pull tab 103 mm or 4 in. (400% extension) without bond loss

To learn more about the field adhesion test, watch our "Standard Field Adhesion Test" video by visiting **youtube.com/watch?v=F7nNCo_CoIA** or by scanning the QR code at left.

For more information

Learn more about the full range of Dow Building Science offerings, including products, service and support, at **dow.com/buildingscience**.

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Form No. 63-6531-01-1024 AGP