



Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints¹

This standard is issued under the fixed designation C1521; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice describes destructive and nondestructive procedures.

1.2 The destructive procedure stresses the sealant in such a way as to cause either cohesive or adhesive failure of the sealant or cohesive failure of the substrate where deficient substrate conditions exist. The objective is to characterize the adhesive/cohesive performance of the sealant on the specific substrate by applying whatever strain is necessary to effect failure of the sealant bead. It is possible that the strain applied to the sealant bead may result in the failure of a deficient substrate before effecting a failure in the sealant.

NOTE 1—The destructive procedure requires immediate repair of the sealant bead. Appropriate materials and equipment should be available for this purpose.

NOTE 2—Sealant formulations may fail in cohesion or adhesion when properly installed, and tested by this method. The sealant manufacturer should be consulted to determine the appropriate guidelines for using this method.

1.3 The nondestructive procedure places strain on the sealant and a stress on the adhesive bond. Though termed nondestructive, this procedure may result in an adhesive failure of a deficient sealant bead, but should not cause a cohesive failure in the sealant. The results of this procedure should be either adhesive failure or no failure.

NOTE 3—The nondestructive procedure may require immediate repair of the sealant bead, if failure is experienced. Appropriate materials and equipment should be available for this purpose.

1.4 The non-destructive procedure can be used for continuous inspection of 100 % of the joint(s) or for any areas where deficient conditions, which are inconsistent with the practices of Guide C1193, are suspected.

1.5 The committee with jurisdiction over this practice is not aware of any comparable practices published by other organizations or committees.

1.6 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

C717 Terminology of Building Seals and Sealants

C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

C1193 Guide for Use of Joint Sealants

3. Terminology

3.1 *Definitions*—For definitions of terms used in this recommended procedure, see Terminology C717.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *flap, n*—the term “flap” as used in this specification refers to a portion of an installed sealant bead that has been purposely cut along one substrate bond line and across the bead at two locations resulting in a portion of bead adhered along one substrate bond line.

3.2.2 *tail, n*—the term “tail” as used in this specification refers to a portion of an installed sealant bead that has been purposely cut along both substrate bond lines and across the bead at one location resulting in a portion of bead unadhered to the substrates but adhered to the remainder of the sealant bead.

4. Significance and Use

4.1 Many parameters contribute to the overall performance of a sealant application. Some of the most significant parameters are sealant bead size and configuration, joint movement,

¹ This practice is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.30 on Adhesion.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.