



Designation: C 1481 – 00

## Standard Guide for Use of Joint Sealants with Exterior Insulation and Finish Systems (EIFS)<sup>1</sup>

This standard is issued under the fixed designation C 1481; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This guide describes the use of single and multi-component, cold-applied joint sealants, or pre-cured sealant systems for joint sealing applications, or both, in buildings using exterior insulation and finish systems (EIFS) on one or both sides of the joint. Refer to 10.1 for joint seal geometries.

1.2 The elastomeric sealants described by this guide meet the requirements of Specifications C 834, C 920, or C 1311.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information only.

1.4 *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.* For specific hazard statements, see Notes 1 and 2.

1.5 There are no ISO standards similar or equivalent to this ASTM standard.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- C 717 Terminology of Building Seals and Sealants<sup>2</sup>
- C 719 Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)<sup>2</sup>
- C 794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants<sup>2</sup>
- C 834 Specification for Latex Sealants<sup>2</sup>
- C 920 Specification Elastomeric Joint Sealants<sup>2</sup>
- C 1193 Guide for Use of Joint Sealants<sup>2</sup>
- C 1299 Guide for Use in Selection of Liquid-Applied Sealants<sup>2</sup>
- C 1311 Specification for Solvent Release Sealants<sup>2</sup>
- C 1382 Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish Systems (EIFS) Joints<sup>2</sup>

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.10 on Specifications, Guides and Practices.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.07.

C 1397 Practice for Application of Class PB Exterior Insulation and Finish Systems<sup>3</sup>

C 1472 Guide for Calculating Movement and Other Effects When Establishing Sealant Joint Width<sup>2</sup>

#### 2.2 ANSI Standard:

American National Standard for Exterior Insulation and Finish Systems (EIFS)<sup>4</sup>

### 3. Terminology

#### 3.1 Definitions:

3.1.1 Refer to Terminology C 717 for definitions of the following terms used in this guide: *bicellular sealant backing, bond breaker, bridge sealant joint, butt sealant joint, chemically curing sealant, closed cell sealant backing, compatibility, compatible materials, cure, elastomeric, elongation, fillet sealant joint, joint, lap sealant joint, latex sealant, modulus, non-sag sealant, open cell sealant backing, primer, seal, sealant, sealant backing, shelf-life, solvent-release sealant, shrinkage, substrate, tooling, tooling time, working life (pot life).*

3.1.2 Refer to Terminology C 1397 for definitions of the following terms used in this guide: *accessories, base coat, cure, dry, durability, embed, expansion joint, exterior insulation and finish system (EIFS), finish coat, lamina, nonmetallic reinforcing mesh, primers, reinforced base coat, substrate, texture, thermal insulation board, wrap, wrapping.*

### 4. Significance and Use

4.1 The intent of this guide is to provide information and guidelines for the selection of materials for joint seals in, or adjacent to, EIFS.

4.2 Joints need to be designed for the expected movements and construction tolerances so an appropriate joint width can be established.

## DESIGN CONSIDERATIONS

### 5. General

5.1 The major components of a joint seal in, or adjacent to, EIFS that should be considered when selecting or using

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.01.

<sup>4</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

sealants are as follows: EIFS substrate, primer, sealant backing or bond-breaker, and sealant (see Figs. 1-11).

**6. EIFS Substrate**

6.1 *Joint Location and Configuration*—In an EIFS-clad building, sealant joints typically are required at the following locations:

- 6.1.1 At the floor line of multi-level wood frame construction;
- 6.1.2 At an existing building expansion joint;
- 6.1.3 Where dissimilar substrates are bridged;
- 6.1.4 When an EIFS abuts dissimilar building construction;
- 6.1.5 Some EIFS manufacturers may require joints in long continuous elevations;

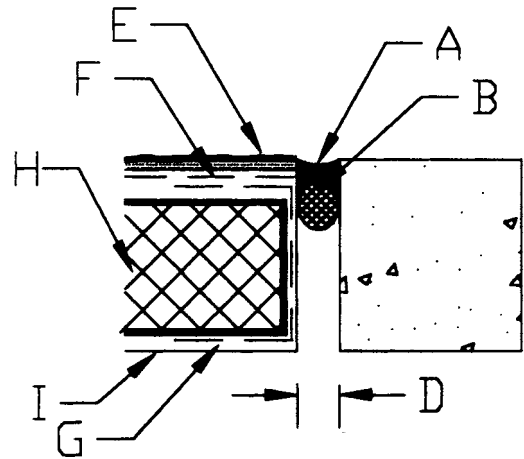
6.1.6 The size and location of joints is the responsibility of the design professional and shall be consistent with the project conditions and guidelines of the EIFS manufacturer.

6.1.7 *Joint Configuration*—Industry accepted minimum joint width is 19 mm (3/4 in.) with sufficient depth to accommodate the sealant backing and sealant material. Lesser joint widths may be allowable where EIFS abuts adjacent materials. Consider the sealant manufacturer’s published sealant movement capability when determining the appropriate joint width. Refer to Guide C 1472. Good architectural practice calls for joint designs that allow for construction tolerances and material variations.

6.2 *EIFS Installation*—The EIFS manufacturer’s recommended installation procedures should be followed at all times.

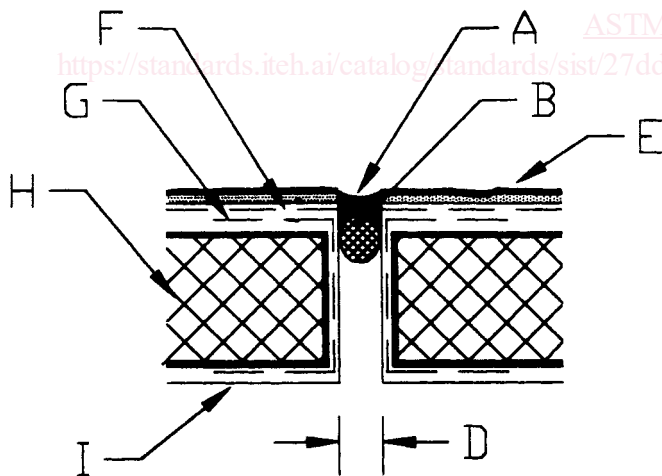
6.2.1 Practice C 1397 provides a minimum requirement for the application of Class PB EIFS.

6.2.2 Exposed edges of thermal insulation board which create the sides of the joint must be protected with EIFS



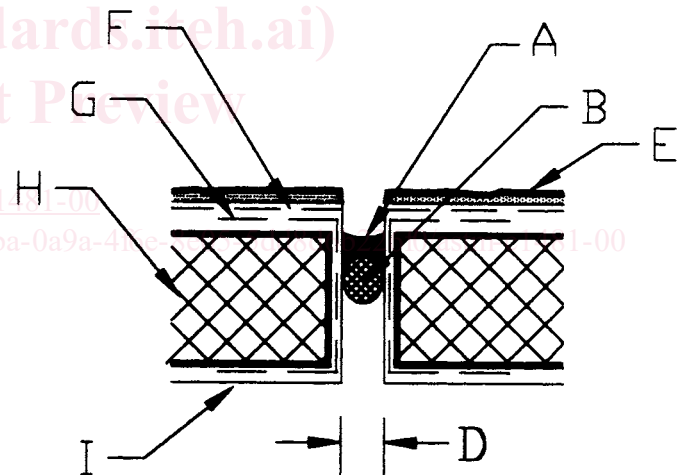
- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)

FIG. 2 Sealant Butt Joint Seal (EIFS to Dissimilar Substrates)



- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)

FIG. 1 Sealant Butt Joint Seal (EIFS to EIFS)

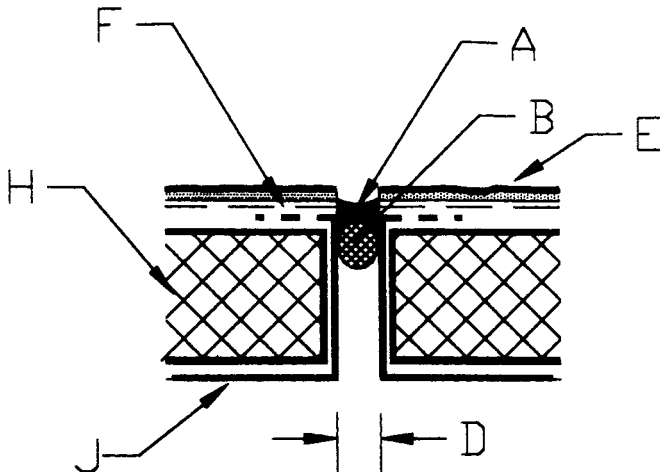


- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)

FIG. 3 Recessed Sealant Butt Joint Seal (EIFS to EIFS)

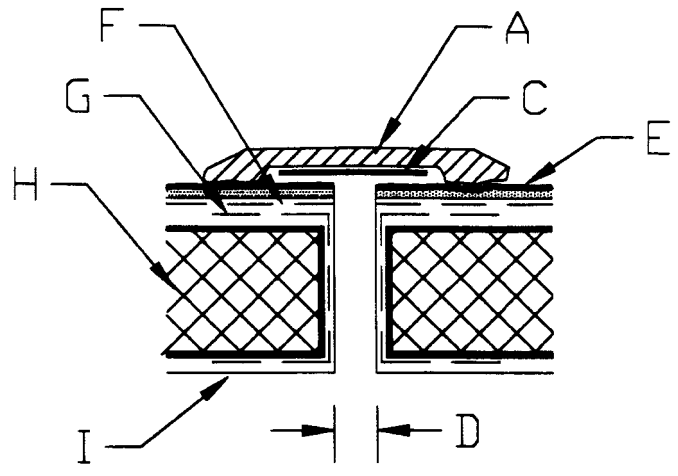
manufacturer’s nonmetallic reinforcing mesh fully embedded in their base coat. This procedure is referred to as wrapping. There shall be no exposed mesh at joint locations or elsewhere.

6.2.3 EIFS manufacturers may require the use of an accessory to terminate a joint (see Figs. 4 and 5). Where an EIFS



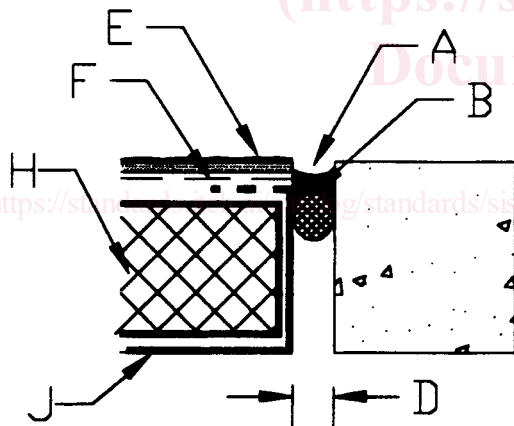
- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)
  - J. Trim Accessory

FIG. 4 Sealant Butt Joint Seal (Accessory to Accessory)



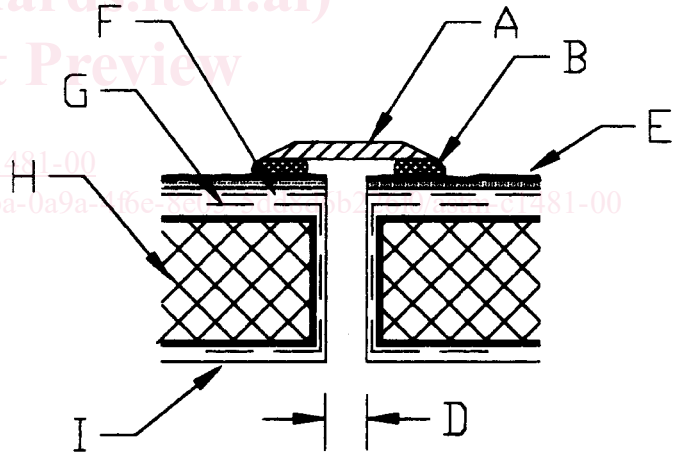
- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)

FIG. 6 Sealant Bridge Joint Seal Using Liquid—Applied Sealant and Bond Breaker



- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)
  - J. Trim Accessory

FIG. 5 Sealant Butt Joint Seal (Accessory to Dissimilar Substrate)



- Legend
- A. Sealant
  - B. Sealant Backing
  - C. Bond Breaker
  - D. Joint
  - E. Textured Finish
  - F. Reinforcing Mesh Embedded in Base Coat
  - G. Backwrap Mesh Around Insulation Board
  - H. Insulation Board
  - I. Adhesive (If Applicable)

FIG. 7 Sealant Bridge Joint Seal Using Precured Sealant

manufacturer's approved accessory is used as a termination and sealant substrate, wrapping may not be required.

6.2.4 The EIFS substrate must be allowed sufficient time to cure or dry before application of sealants. A minimum drying