



Designation: ~~C1518-02~~ Designation: C 1518 – 04 (Reapproved 2009)

Standard Specification for Precured Elastomeric Silicone Joint Sealants¹

This standard is issued under the fixed designation C 1518; 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 ~~Precured Elastomeric Silicone Joint Sealants~~, elastomeric silicone joint sealants, hereinafter referred to as seal, are manufactured in flat, cured, extruded shapes and are primarily used to span joint openings in construction. This specification describes the properties of applied, flat shaped ~~precured elastomeric Silicone Joint Sealants~~, silicone joint sealants, hereinafter referred to as applied seal, that bridge joint openings and are adhered to joint substrates utilizing a liquid applied silicone adhesive sealant, specified by the manufacturer, hereinafter referred to as adhesive to construction substrates, to seal building openings such as panel joints, metal flashing joints, or other building openings in place of conventional liquid applied sealants.

1.2 Seals are applied in three different configurations:

1.2.1 As a bridge joint, the seal is applied flat on the surface to cover a joint opening. See Fig. 1.

1.2.2 As a beveled bridge joint, the seal is applied on the beveled edge of a substrate to bridge a joint opening. See Fig. 2.

1.2.3 As a U-joint, the seal is applied in a U-configuration within a joint. See Fig. 3.

1.3 This specification is for a flat extruded shape. A three-dimensional shape used at a joint cross section or termination is being considered for future inclusion in the specification.

1.4 An applied seal meeting the requirements of this specification shall be designated by the manufacturer as to movement class and tear class as described in Section 5.

1.5 The values stated in SI units are to be regarded as the standard. The values given in ~~parenthesis~~ brackets are for information only.

ITeH Standards
(<https://standards.iteh.ai>)
Document Preview

[ASTM C1518-04\(2009\)](https://standards.iteh.ai/catalog/standards/sist/813a5005-96a7-4ff6-87e3-624793dbaa6d/astm-c1518-042009)

<https://standards.iteh.ai/catalog/standards/sist/813a5005-96a7-4ff6-87e3-624793dbaa6d/astm-c1518-042009>

¹ This specification 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.

~~Current edition approved Jan. 10, 2002. Published April 2002.~~

Current edition approved June 1, 2009. Published June 2009. Originally approved in 2002. Last previous edition approved in 2004 as C 1518 - 04.

2. Referenced Documents

2.1 ASTM Standards:²

C 717 ~~Terminology of Building Seals and Sealants~~

~~C 1523 Test Method for Determining Modulus, Tear and Adhesion Properties of Precured Elastomeric Joint Sealants²~~
~~Terminology of Building Seals and Sealants~~

C 1442 ~~Practice for Conducting Tests on Sealants Using Artificial Weathering Apparatus~~

C 1523 ~~Test Method for Determining Modulus, Tear and Adhesion Properties of Precured Elastomeric Joint Sealants~~

D 1566 ~~Terminology Relating to Rubber~~

G 113 ~~Terminology Relating to Natural and Artificial Weathering Tests of Nonmetallic Materials~~

~~G151 Practice for Exposing Nonmetallic Materials in Accelerated Test Devices That Use Laboratory Light Sources⁴~~

~~G154 Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials⁴~~

~~G155 Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials⁴~~ ~~Terminology Relating to Natural and Artificial Weathering Tests of Nonmetallic Materials~~

3. Terminology

3.1 Definitions:

3.1.1 Refer to Terminology C 717 for definitions of the following terms used in this specification: cohesive failure, adhesive failure, elastomeric, elongation, joint, modulus, primer, seal, sealant, substrate.

3.1.2 Refer to Terminology G 113 for definitions related to artificial weathering.

3.1.3 Refer to Terminology D 1566 for tear.

4. Significance and Use

4.1 This specification describes several classifications of applied seals as described in Section 5. The purchaser or design professional shall recognize that not all materials meeting this specification are suitable for all applications and substrates. It is essential, therefore, that the proper classification of the seal system is provided for the intended use. The test methods in this specification relate to elastomeric performance, adhesion of the adhesive to the seal and adhesion of the adhesive to the substrate, only as adhesion relates to the test specimens. The standard substrate for qualification to this specification is portland cement mortar. The standard joint configuration for qualification to this specification is the bridge joint configuration as shown in Fig. 1. Users are advised to have adhesion tests performed in the field on the actual substrate to determine adhesion performance.

NOTE 1—Other joint configurations such as beveled bridge joint application and/or U-joint application in place or in addition to the standard joint configuration may be specified for the test with the applied seal sample.

NOTE 2—Other substrates such as EIFS, brick, wood, aluminum, plastic, metal or other in place or in addition to the standard substrate may be specified for the test with the applied seal sample.

5. Classification

5.1 *Movement Class*—A seal qualifying under this specification shall be classified for movement capability as follows.

5.1.1 *Movement Class X*—An applied seal that when tested for movement as described in Test Method C 1523 (9.1) after subjecting joint specimens to each of the following: three joint specimens to frozen temperature conditioning as described in Test Method C 1523 (8.2.3) for 24 h; three joint specimens to heat conditioning as described in Test Method C 1523 (8.2.4) for 24 h; and three joint specimens to Artificial Weathering in accordance with Practice G151, C 1442 and Practice G154, or Practice G155 as described in Test Method C 1523 as described (8.2.5) for a minimum of 2500 h. The exposure duration shall be sufficient to produce a statistically significant change of the property evaluated in Test Method C 1523 (8.2.5) for 2500 h, a material known to give poor performance when used in the application of interest. After each type of conditioning, the specimen shall withstand a strain and the holding time at that strain for one hour to X % elongation, where X is 12.5 % or greater, in increments of 12.5 % to max 200 %. (Test Method C 1523, 9.1)

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, Vol 04.07, volume information, refer to the standard's Document Summary page on the ASTM website.

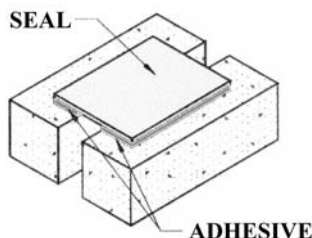


FIG. 1 Bridge Joint Configuration