



Standard Test Method for T-Peel Strength of Hot Applied Sealants¹

This standard is issued under the fixed designation C 906; 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 test method covers a laboratory procedure for determining the peel strength of a hot-applied sealant, hereafter referred to as the sealant, when installed between flexible metal substrates of a T-type configuration. It also provides information on the adhesion of the sealant to the tested substrates.

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

1.3 *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:

C 717 Terminology of Building Seals and Sealants²

3. Terminology

3.1 *Definitions*—See Terminology C 717 for definitions of the following terms used in this standard: adhesive failure, cohesive failure, hot applied sealant, sealant, and substrate.

3.2 Descriptions of Terms Specific to This Standard:

3.2.1 *flexible*—indicates that the substrates shall have such dimensions and physical properties as to permit bending them through any angle up to 90° without breaking or cracking.

3.2.2 *specified temperature*—application temperature specified by the sealant manufacturer.

3.2.3 *T-peel strength*—the average load per unit width required to produce progressive separation of two bonded flexible substrates under conditions designated in this test method.

4. Apparatus

4.1 *Any Extrusion Apparatus*³, used to mechanically apply

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² *Annual Book of ASTM Standards*, Vol 04.07.

³ The following devices have been found suitable for this purpose: Hardman PSA gun, available from Hardman, Inc., Belleville, NJ 07190; heated extruders, available from various manufacturers; and the Pyles Bulk Melters, available from Pyles Industries, 28990 Wixom Rd., Wixom, MI 48096.

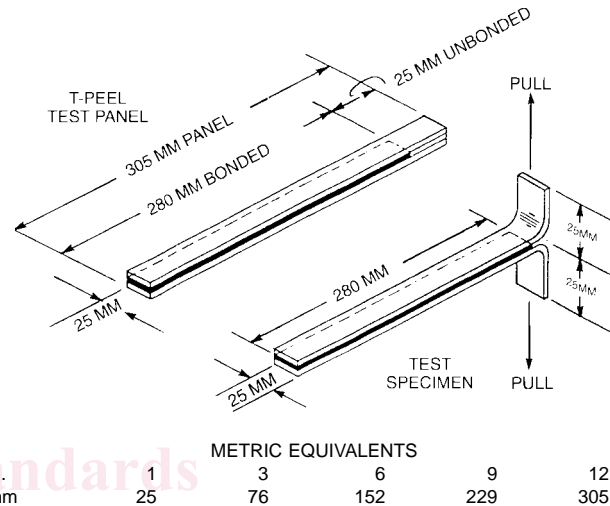


FIG. 1 Test Panel and Test Specimen

molten sealants and capable of delivering the required amount of 6.5 by 279.4 mm (1/4 by 11 in.) at the specified application temperature.

4.2 *Heated Press*, capable of compressing six 25.4 by 304.8 mm (1 by 12 in.) strips of aluminum specimens to a fixed stop.

4.3 *Silicone Release Paper*.

4.4 *Hot Knife*.

4.5 *Tension Testing Machine*,⁴ capable of applying a tensile load having the conditions prescribed in 4.5.1-4.5.5.

4.5.1 The machine and loading range shall be so selected that the maximum load on the specimen falls between 15 and 85 % of the upper limit of the loading range.

4.5.2 The rate of movement between heads shall be 254 mm/min (10 in./min).

NOTE 1—It is difficult to meet this requirement when loads are measured with a spring-type or pendulum-type weighing device.

4.5.3 The machine shall be equipped with suitable grips capable of clamping the specimens firmly and without slippage throughout the tests.

4.5.4 The machine shall be autographic, giving a chart that can be read in terms of inches of separation as one coordinate and applied load as the other coordinate.

⁴ A tension testing machine such as those available from Instron, 1580 Akron Peninsula Rd., Akron, OH 44313 or from Monsanto Chemical Company, 2689 Wingate Ave., Akron, OH 44314, or an equivalent, has been found suitable for this purpose.