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Standard Test Methods for Release Papers Used with Preformed Tape Sealants¹

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1. Scope

1.1 These test methods cover laboratory procedures for evaluating the release characteristics of a release paper intended to be supplied in direct contact with a preformed tape sealant.

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

1.3 The subcommittee with jurisdiction is not aware of any similar ISO standard.

1.4 *This standard does not purport to address all of the safety concerns 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:*

¹ These test methods are under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and are the direct responsibility of Subcommittee C24.20 on General Sealant Standards.

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C 717 Terminology of Building Seals and Sealants²

3. Terminology

3.1 *Definitions*— The definitions of the following terms used in this test method are found in Terminology C 717: preformed tape sealant, sealant.

4. Summary of Test Method

4.1 The preformed tape sealant is placed between two strips of release paper supplied with the preformed tape sealant. Duplicate samples are rolled with a standard roller. One sample is heat aged in an oven, the other is heat aged in a humidity chamber. The release paper is peeled off of the preformed tape sealant either at ambient or elevated temperature. The release paper is examined for transfer or residue of the preformed tape sealant.

5. Significance and Use

5.1 Preformed tape sealants are tacky, deformable solids that are used under compression between two substrates in various sealing applications. These tapes are usually supplied in roll form with a release paper interlayer. When the roll is unwound and the release paper is removed from the preformed tape sealant, there should be no transfer of the preformed tape sealant to the release paper, nor any residue left on the paper. These methods will give a qualitative indication of whether or not the release paper can be removed cleanly from a preformed tape sealant after a controlled exposure period.

5.2 Alternative procedures are listed because some preformed tape sealants are normally used under field conditions where elevated temperatures can be encountered, while other preformed tape sealants are normally used under more controlled environments in “assembly line” operations.

6. Apparatus and Accessory Materials

6.1 *Hard Rubber Roller*, weighing 2043 g (4.5 lb), with approximate dimensions of 82.5-mm (3.25-in.) diameter and 63.5-mm (2.5-in.) width. The rubber surface is 6.4 mm (0.25 in.) thick and has a durometer hardness value of 75 ± 5 .

6.2 *Oven*, forced-draft, set at $70 \pm 2^\circ\text{C}$ ($158 \pm 3.5^\circ\text{F}$) or $50 \pm 2^\circ\text{C}$ ($122 \pm 3.5^\circ\text{F}$).

6.3 *Humidity Chamber*, set at $41 \pm 2^\circ\text{C}$ ($105 \pm 3.5^\circ\text{F}$) and $100 + 0, - 2\%$ relative humidity.

6.4 *Weight*, 1000-g (2.2-lb).

7. Sampling

7.1 Samples to be tested shall be taken from a fresh roll of preformed tape sealant, after first removing and discarding approximately the first 600 mm (2 ft) of the roll.

8. Test Specimens

8.1 Prepare two test specimens as follows:

8.1.1 Place a 152-mm (6-in.) length of preformed tape sealant between two strips of release paper that is supplied with the preformed tape sealant. Apply light finger pressure on the release papers to ensure alignment of the preformed tape sealant.

8.1.2 Pass the 2043-g (4.5-lb) roller over the length of the preformed tape sealant sample three times to ensure adequate contact.

9. Conditioning

9.1 Condition one test specimen for 14 days at $70 \pm 2^\circ\text{C}$ ($158 \pm 3.5^\circ\text{F}$) in a forced-draft oven.

9.1.1 Condition the duplicate specimen for 14 days at $41 \pm 2^\circ\text{C}$ ($105 \pm 3.5^\circ\text{F}$) and $100 + 0, - 1\%$ relative humidity in a constant-humidity chamber.

9.2 Remove the specimens and allow them to condition for 1 h at $23 \pm 2^\circ\text{C}$ ($73.4 \pm 3.6^\circ\text{F}$) and $50 \pm 10\%$ relative humidity.

10. Procedures

10.1 *Alternative A, Ambient-Temperature Testing*—Lift approximately 25 mm (1 in.) of the release paper from each side of the 152-mm (6-in.) length of preformed tape sealant specimen at one end and fold back 180° . Place the 1000-g (2.2-lb) weight on the exposed portion of the tape to hold it in place while the two strips of release paper are simultaneously peeled from the preformed tape sealant compound at an angle as close as practical to 180° to the preformed tape sealant surface (see Fig. 1).

10.2 *Alternative B, Elevated-Temperature Testing*—Place both specimens in a forced-draft oven set at $50 \pm 2^\circ\text{C}$ ($122 \pm 3.6^\circ\text{F}$). After 1 h and while still in the oven at 50°C (122°F), perform the release paper peeling procedure described in 10.1.

10.3 Visually examine the specimens for transfer or residue of the tape compound to the release paper.

11. Report

11.1 Report the following information:

² Annual Book of ASTM Standards, Vol 04.07.



FIG. 1 Release Paper Peeling Procedure

11.1.1 Identification of the preformed tape sealant, that is, the name, lot number and any other identifying characteristics.

11.1.2 The alternative procedure used and the test temperature.

11.2 If any transfer or residue of preformed tape sealant is observed.

12. Precision and Bias

12.1 Three round robins were conducted using Alternative Procedure A. Different laboratories showed excellent comparative results when evaluating a wide variety of tapes supplied with different release papers. One test was conducted using Alternative Procedure B and again a good correlation of results was obtained.

13. Keywords

13.1 preformed tape sealant; release paper; tape sealants; tapes

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