



Designation: D7888 – 18

Standard Practice for Evaluating Adhesive and the Effects of Plasticizer Found Within Polyvinyl Chloride-Backed Floor Coverings¹

This standard is issued under the fixed designation D7888; 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 standard will provide a qualitative means to determine the potential effects of plasticizers contained within polyvinyl chloride (PVC) floor covering materials on a specific adhesive.

1.2 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.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D123 Terminology Relating to Textiles

D907 Terminology of Adhesives

D8089 Practice for Accelerated Heat Aging for Floor Covering Adhesives

F141 Terminology Relating to Resilient Floor Coverings

3. Terminology

3.1 *Definitions:*

¹ This practice is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of Subcommittee D14.10 on Working Properties.

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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.

3.1.1 *plasticizer, n*—additives that increase the plasticity or fluidity of a material; a chemical added especially to rubbers and resins to impart flexibility, workability, or elasticity.

3.1.2 *polyvinyl chloride (PVC), n*—a thermoplastic polymer used in many floor covering materials.

4. Significance and Use

4.1 Plasticizer migration is detrimental to many adhesives, including hot melts, which could be possibly used in conjunction with PVC backed flooring materials, whether resilient or textile, broadloom, tile or plank. This practice can be used as an indicator to determine if plasticizers in the flooring material are compatible with proposed installation adhesive(s).

5. Apparatus

5.1 *Circulating Air Oven*, capable of maintaining $140 \pm 3^\circ\text{F}$ ($60 \pm 2^\circ\text{C}$).

5.2 *Test Adhesive*.

5.3 *Test Floor Covering*.

5.4 *Floor Covering Seam-roller*, (approximately 2 lb (1 kg)).

5.5 *U Notched Trowel*, $\frac{1}{32}$ in. by $\frac{1}{16}$ in. by $\frac{1}{32}$ in. (0.079 cm by 0.16 cm by 0.079 cm), or alternate means of application.

5.6 *Four Pieces of Aluminum Foil*, approximately 26 in. by 10 in. (66 cm by 25 cm).

6. Procedure

6.1 Cut four 6 in. by 6 in. (15 cm by 15 cm) pieces of the PVC backed flooring test material. Material composition can be textile or resilient.

6.2 Using the recommended application method as instructed by the floor covering or adhesive manufacturer (trowel, roller, or spray) apply the adhesive to the backing of two of the 6 in. by 6 in. (15 cm by 15 cm) pieces of floor covering. If no application method is specified use a $\frac{1}{32}$ in. by $\frac{1}{16}$ in. by $\frac{1}{32}$ in. (0.079 cm by 0.16 cm by 0.079 cm) U notched flooring trowel.

6.3 Allow the adhesive on the test specimens to dry at room conditions maintained at $73 \pm 3^\circ\text{F}$ ($23 \pm 2^\circ\text{C}$) and $50 \pm 5\%$ relative humidity for not less than 3 h before testing.