



National Institute of Standards & Technology

Certificate

Standard Reference Material® 1810a

Linerboard Standard for Tape Adhesion Testing

This Standard Reference Material (SRM) is intended to provide a uniform source of linerboard for use with ASTM D 2860 Standard Test Method for Adhesion of Pressure-Sensitive Tape to Fiberboard at 90 Degree Angle and Constant Stress [1]. It may also be used for the following ASTM test methods: ASTM D 3654 Standard Test Method for Holding Power of Pressure-Sensitive Tapes [2]; ASTM D 3889 Standard Test Method for Adherence to Linerboard of Pressure-Sensitive Tape at Low Temperature [3].

Each unit of this SRM consists of fifty 21.6 cm x 28 cm (8 5/8 in x 11 in) linerboard sheets of Mosinee 696-C¹ paper, sealed in a moisture resistant foil-lined package.

Based on available ASTM Committee D-10 test information, two test results (each based on five specimens - using tape from the same roll, and tested in accordance with Procedure A of D 2860) should agree with each other within 50 % of the average test result at least 95 % of the time.

SRM 1810a is a direct replacement of SRM 1810, with no correction factor required.

Expiration of Certification: The certification of an unopened package of this SRM is deemed to be indefinite, provided the SRM is handled and stored in accordance with the Care and Handling and Instructions for Use sections of this certificate. However, certification will be nullified if the SRM is damaged, contaminated, or exposed to excess humidity. Individual sheets, once used, cannot be retested.

Certification of the linerboard is based on analysis and information developed by the Tape Task Group of ASTM Committee D-10 on Packaging and Subcommittee D10.14 on Tapes and Labels.

The interlaboratory study, coordinated by C.E. Twitchell (D10.14 Subcommittee Chairman), used SRM 1810 as a control.

The technical and support aspects involved in the original preparation, certification, and issuance of this SRM were originally coordinated through the Standard Reference Materials Program by R.L. McKenzie. Revision of this certificate was coordinated through the Standard Reference Materials Program by R.J. Gettings.

Gaithersburg, MD 20899

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6/1/90 (original certificate date)

*Editorial revision only.

Thomas E. Gills, Chief

Standard Reference Materials Program

¹Certain commercial materials and equipment are identified in order to adequately specify the experimental procedure. Such identification does not imply a recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment are necessarily the best available for this purpose.

INSTRUCTIONS FOR USING SRM 1810a

With ASTM Designation D 2860, Procedure A Adhesion of Pressure-Sensitive Tape to Fiberboard at 90 Degree Angle and Constant Stress

Care and Handling: SRM 1810 a, Linerboard, is issued in sealed packages. Open the sealed package only in a room maintained in accordance with conditions given in ASTM E 171 Standard Atmospheres for Conditioning Flexible Barrier Materials [4], [$23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($73.4^{\circ}\text{F} \pm 3.6^{\circ}\text{F}$) and $50\% \pm 2\% \text{ RH}$]. Unless resealed, the package should always remain in a controlled temperature and humidity room. After opening the sealed package, remove at least five linerboard sheets. Handle the sheets by the edges only. Allow only the unprinted side to touch the table top or other foreign surface. Use only the printed side of the linerboard sheet for the test. Condition all sheets at least 24 h prior to testing (see ASTM D 2860).

Instructions for Use: Each linerboard sheet provides sufficient material for 16 measurements. Cut 2.54 cm (1 in) wide strips parallel to the 29 cm (11.5 in) dimension of the linerboard sheet. This will give a strip 2.54 cm x 29.2 cm (1 in x 11 1/4 in) with the machine direction running across the 2.54 cm (1 in) dimension. Cut each strip in half to give individual test strips 2.54 cm (1 in) x 29 cm (11.5 in). (This may differ slightly from the size specified in D 2860). Place all strips from any one linerboard sheet in the same envelope.

To conduct a complete determination on one roll of tape, take five tape specimens from the same roll and five linerboard strips, one from each of five envelopes. Do not remove a linerboard strip from an envelope before preparing the test. Remove at least three laps of tape from the roll before taking tape specimens. Lightly sand the backing of the tape on the roll with a 300-grit abrasive paper to remove the easy-unwind treatment from the tape backing. This will improve the adhesion of the test tape to the double-coated tape used to mount the test tape to the rigid panel (see D 2860 procedure A).

If for any reason a specimen is considered void (see D 2860), select at random another linerboard strip from any envelope. If more than one specimen is voided, select at random replacement linerboard strips from a corresponding number of different envelopes.

REFERENCES

- [1] ASTM D 2860-90 (1994), "Standard Test Method for Adhesion of Pressure-Sensitive Tape to Fiberboard at 90 Degree Angle and Constant Stress," ASTM Annual Book of Standards, Vol. 15.09, West Conshohocken, PA, (1994).
- [2] ASTM D 3654-96, "Standard Test Method for Holding Power of Pressure-Sensitive Tapes," ASTM Annual Book of Standards, Vol. 15.09, West Conshohocken, PA, (1996).
- [3] ASTM D 3889-96, "Standard Test Method for Adherence to Linerboard of Pressure-Sensitive Tape at Low Temperature," Vol. 15.09, West Conshohocken, PA, (1996).
- [4] ASTM E 171-94, "Standard Specification for Standard Atmospheres for Conditioning and Testing Flexible Barrier Materials," ASTM Book of Standards, Vol. 08.03, West Conshohocken, PA, (1996).