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Standard Specification for Resilient Wall Base¹

This standard is issued under the fixed designation F1861; 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 specification covers resilient wall base. These products are manufactured from rubber or thermoplastic materials, or a combination thereof. Wall base is used to provide a functional, as well as decorative border, between walls and floors. This specification does not include rigid products.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 The following safety caveat pertains to the test methods portion, Section 12, of this specification: *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

[ASTM F1861-21](#)

<https://standards.iteh.ai/catalog/standards/sist/8d1843af-4569-4b1b-9ebf-65e392e6e87a/astm-f1861-21>

2.1 The following documents of the issue in effect on the date of the material purchase form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:²

[D883 Terminology Relating to Plastics](#)

[D1566 Terminology Relating to Rubber](#)

[D1755 Specification for Poly\(Vinyl Chloride\) Resins](#)

[F137 Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus](#)

[F141 Terminology Relating to Resilient Floor Coverings](#)

[F386 Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces](#)

[F410 Test Method for Wear Layer Thickness of Resilient Floor Coverings by Optical Measurement](#)

[F925 Test Method for Resistance to Chemicals of Resilient Flooring](#)

[F1515 Test Method for Measuring Light Stability of Resilient Flooring by Color Change](#)

¹ This specification is under the jurisdiction of ASTM Committee F06 on Resilient Floor Coverings and is the direct responsibility of Subcommittee F06.80 on Specifications.

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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.

2.3 Other Standards:

ANSI/ASQC Z1.4-2003(R2013)Z1.4 Sampling Procedures and Tables for Inspection by Attributes³

3. Terminology

3.1 Definitions—For definitions of other terms used in this standard, see Terminology F141.

4. Classification

4.1 Types—Wall base shall be of the following types, as specified (see 5.1.2, 6.1, and 7.1).

4.1.1 Type TS—rubber, vulcanized thermoset.

4.1.2 Type TP—rubber, thermoplastic.

4.1.3 Type TV—vinyl, thermoplastic.

4.2 Groups—Wall base shall be one of the following groups, as specified (see 5.1.2, 6.2.1, and 6.2.2):

4.2.1 Group 1—solid (homogeneous).

4.2.2 Group 2—layered (multiple layers/heterogeneous).

4.2.3 Either group may be specified with any of the types above. It is not necessary to specify group when either is acceptable.

4.3 Styles—Wall base shall be of the following styles as specified (see 5.1.2, 6.3, and Fig. 1):

4.3.1 Style A—straight.

4.3.2 Style B—cove.

4.3.3 Style C—butt-to.

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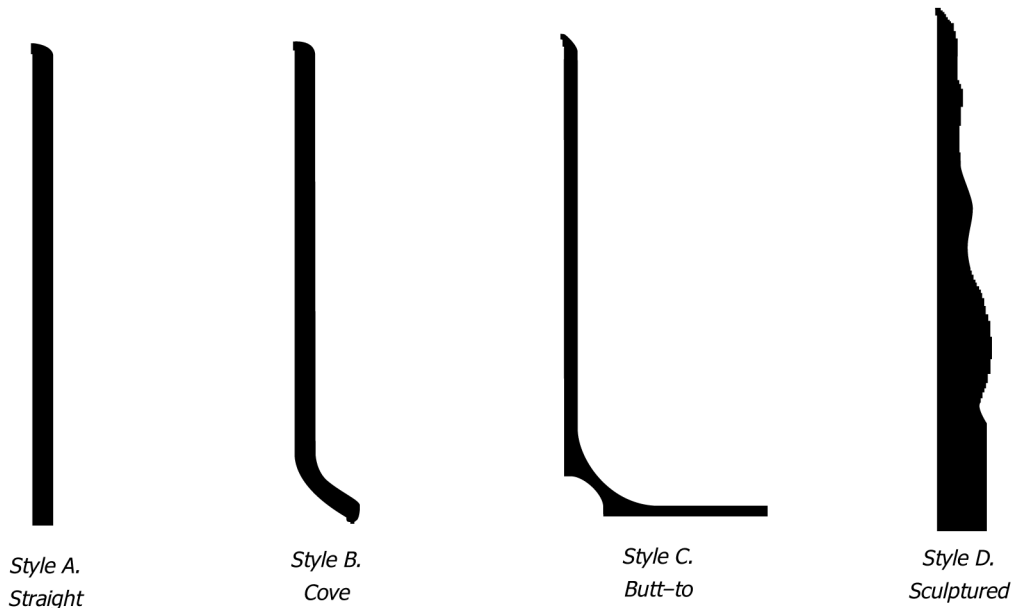


FIG. 1 Typical Profiles of Wall Base

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

4.3.4 *Style D*—sculptured.

4.4 *Corners*—Where specified, both inside and outside 90° factory-made corners should be specified by style. Corners must meet the same height and thickness requirements as wall base (see Section 9).

NOTE 1—Factory-made corners and wall base may have visual color differences due to process and material variations. Consult the manufacturer to ensure color acceptability between factory-made corners and wall base prior to ordering.

5. Ordering Information

5.1 Purchasers shall state whether this specification is to be used, select the preferred options permitted herein, and include the following information in the invitation to bid or purchase order:

5.1.1 Title, number, and date of this specification,

5.1.2 Type, group, and style, (see Sections 4, 6, and 7),

5.1.3 Factory-made corners, if required (see 4.4),

5.1.4 Color (see 6.2),

5.1.5 Quantity: in pieces, linear feet, or cartons,

5.1.6 Height required (see 9.1),

5.1.7 Thickness required (see 9.2),

5.1.8 Length required (see 9.3, 9.3.1, and Section 15),

5.1.9 Lot information, if other than as specified in ANSI/ASQC Z1.4–2003(R2013);Z1.4, (see 11.1 and 13.1),

5.1.10 Sampling, if other than as specified in ANSI/ASQC Z1.4–2003(R2013);Z1.4, (see 11.1),

5.1.11 Statement requesting certification, if certification of compliance is required (see Section 14),

5.1.12 Packing requirements, if other than as specified (see Section 16),

5.1.13 Palletization, if required,

5.1.14 Marking required, if other than specified (see Section 15), and

5.1.15 Other requirements.

6. Materials and Manufacture

6.1 *Materials*—Any polymeric material or combination of polymeric materials is acceptable if, in combination with processing chemicals, fillers, and colorants, the material can be formed into wall base, which satisfies all the requirements of this specification (see 5.1 and 7.1). Other suitable recycled polymeric material may be incorporated as a part of the total polymeric content.

6.2 *Color*—The color shall be as specified in the contract or order (see 5.1.4).

NOTE 2—The colors and styles that are available are indicated in individual manufacturer’s current catalogs. As manufactured, colors may vary somewhat in hue or shade from the catalog.

NOTE 3—Where color match is a concern, obtain current samples from the manufacturer to verify color acceptability.

6.2.1 *Solid Wall Base*— The color shall be uniform throughout the entire thickness of the wall base.

6.2.2 *Layered Wall Base*—The surface color need not extend through the entire thickness of the wall base, but must extend throughout the entire wear layer. Layered wall base shall have a minimum wear layer thickness of 0.002 in. (0.05 mm) when measured in accordance with Test Method **F410** and shall not delaminate under normal use.

6.3 *Styles*—The style shall be as specified in the contract or order (see **5.1.2**).

6.3.1 *Straight Wall Base*—The exposed surface of straight (toeless) wall base is vertical, as illustrated by the first cross-sectional profile in **Fig. 1**.

6.3.1.1 *Fit to Wall*—Top return lip of wall base shall fit firmly against the wall when the vertical portion of the cove base is adhered to the wall.

6.3.2 *Cove Wall Base*—The exposed surface of cove wall base shall be distinguished by a “toe” at its bottom edge as illustrated by the second cross-sectional profile in **Fig. 1**.

6.3.2.1 *Fit to Floor*—The toe shall be curved, or angled, or both, to allow it to fit snugly against the floor when the vertical portion of the cove base is adhered to the wall.

6.3.2.2 *Intersection at Toe*—The intersection of the exposed surfaces of the toe and the vertical portion of the cove base shall be rounded and smooth to facilitate maintenance.

6.3.2.3 *Fit to Wall*—Top return lip of wall base shall fit firmly against the wall when the vertical portion of the cove base is adhered to the wall.

6.3.3 *Butt-to Wall Base*—The exposed surface of butt-to wall base shall be distinguished by a “toe,” which butts against the flooring as illustrated by the third cross-sectional profile in **Fig. 1**.

6.3.3.1 *Fit to Floor*—The leading edge of the toe of the butt-to base shall be square to allow a tight, flush fit to the finished flooring when the vertical portion of the butt-to base is adhered to the wall.

6.3.3.2 *Intersection at Toe*—The intersection of the exposed surfaces of the toe and the vertical portion of the butt-to base shall be designed to facilitate maintenance.

6.3.3.3 *Fit to Wall*—Top return lip of wall base shall fit firmly against the wall when the vertical portion of the cove base is adhered to the wall.

6.3.4 *Sculptured Wall Base*—The exposed surface of sculptured wall base shall have an appearance replicating carved wood or chiseled stone, as illustrated by the fourth cross-sectional profile in **Fig. 1**.

6.3.4.1 *Fit to Wall*—Top return lip of wall base shall fit firmly against the wall when the vertical portion of the cove base is adhered to the wall.

7. Material Definitions

7.1 The following definitions will be used in classifying material according to **4.1**:

7.1.1 *Rubber, Vulcanized Thermoset*—The polymeric binder of this compound shall satisfy the definition of rubber, and have been vulcanized, as defined in Terminology **D1566**.

7.1.2 *Rubber, Thermoplastic*—The polymeric binder of this compound shall satisfy the definition of rubber, but remain thermoplastic, as defined in Terminology **D883**.

7.1.3 *Vinyl, Thermoplastic*—The polymeric binder of this compound shall satisfy the definition of poly (vinyl chloride) in Terminology **D883** and Specification **D1755** but remain thermoplastic as defined in Terminology **D883**.

8. Performance Requirements

8.1 *Flexibility*— Unless otherwise specified in the contract or order (see 5.1), the wall base shall show no visible cracks, breaks, or other evidence of weakness when tested in accordance with Test Method F137 using a ¼ in. (6.35 mm) diameter mandrel. This requirement is not applicable for sculptured wall base thicker than 0.125 in. (3.17 mm) in thickness.

NOTE 4—Cove wall base shall be tested with the mandrel perpendicular to the cove when oriented as in use.

8.2 *Staining of Adjacent Surfaces Induced by Wall Base*—Wall base shall contain no ingredient which will cause staining of the finished surfaces adjacent to it when aged by the method specified in 12.1 – 12.7.

8.3 *Resistance to Light*—When tested in accordance to Test Method F1515, the color change of the wall base shall have an average ΔE no greater than 8.0 after 200 h of exposure to light, simulated by a properly fitted xenon-arc radiant energy source.

8.4 *Resistance to Chemicals*—When tested in accordance with Test Method F925, the wall base shall have no more than a slight change in surface dulling, surface attack, or staining when exposed to the following chemicals:

8.4.1 White vinegar (5 % acetic acid).

8.4.2 Rubbing alcohol (70 % isopropyl alcohol).

8.4.3 White mineral oil (medicinal grade).

8.4.4 Sodium hydroxide solution (5 % NaOH).

8.4.5 Hydrochloric acid solution (5 % HCl).

8.4.6 Sulfuric acid solution (5 % H₂SO₄).

8.4.7 Household ammonia solution (5 % NH₄OH).

8.4.8 Household bleach solution (5.25 % NaOCl).

8.4.9 Olive oil (light).

8.4.10 Kerosene (K1).

8.4.11 Unleaded gasoline (regular grade).

NOTE 5—These basic chemicals are representative of those likely to be found in domestic, commercial, and institutional use. Many proprietary compounds contain one or more of these basic chemicals. Should the wall base for an unusual application need to be resistant to a specific chemical, this additional requirement should become part of the procurement document.

8.5 *Dimensional Stability*—Wall base shall not change in length by more than ± 0.25 % when tested by the method specified in 12.8 – 12.15.

8.6 *Odor*—The wall base shall be free from offensive odor.

9. Dimensions and Permissible Variations

9.1 *Height*—The height of the wall base shall be as specified in the contract or order (see 5.1.6). A tolerance of ± 1 % of the nominal height of the wall base shall be permitted when measured with a scale, caliper, or other device graduated in 0.001-in. (0.025 mm) divisions and capable of measuring the maximum height of the specimen. The specimen shall be placed on a flat surface and the measuring device applied in such a manner that the height is not distorted during measurement.

9.2 *Thickness*—Unless otherwise specified in the contract or order (see 5.1.7), the wall base shall be 0.080 in. (2.03 mm) or 0.125

in. (3.17 mm) thick. A permissible tolerance for 0.080 in. (2.03 mm) thick wall base shall be +0.015 in. to -0.005 in. (+0.38 mm to -0.13 mm) and 0.125 in. to 0.375 in. (3.17 mm to 9.53 mm) thick wall base shall have a permissible tolerance of +0.015 in. to -0.015 in. (+0.38 mm to -0.38 mm) and wall base thicker than 0.375 in. (9.53 mm) shall have a permissible tolerance of +0.020 in. to -0.020 in. (+0.51 mm to -0.51 mm) when measured in accordance with Test Method **F386**.

NOTE 6—Measure sculptured wall base at its thickest point.

9.3 *Length*—The length of the wall base shall be as specified in the contract or order (see **5.1.8**). The length of the wall base shall not be less than as marked on the label or package when measured with a calibrated scale or tape graduated in 1/8 in. (3.18 mm) divisions and capable of measuring the maximum length of the specimen. The specimen shall be extended to its full length on a flat surface and all creases and buckles removed, insofar as practical, without applying stresses that cause any significant stretching. The measuring device shall be applied in such a manner that the length is not distorted during measurement.

9.3.1 If a roll contains multiple lengths, a maximum of three pieces shall be permitted; the shortest length shall not be less than 15 ft (4.57 m).

9.4 *Squareness*—Each vertical end of the wall base shall form an angle of $90^\circ \pm 0.5^\circ$ with the top edge and shall fit against the vertical end of another length so that a 0.010 in. (0.254 mm) feeler gage cannot be inserted between the sections at any point.

10. Workmanship, Finish, and Appearance

10.1 The wall base furnished in accordance with this specification shall be free of defects, which adversely affect performance or appearance. Such defects include blemishes, spots, lines, indentations, blisters, and delamination.

10.2 Unless otherwise specified in the contract or order (see **5.1**), the back or bonding surface of the wall base shall be buffed, roughened, ribbed, grooved, or otherwise modified to improve the application to and adhesion to the wall surface, but in no case shall the thickness of the wall base be decreased to the extent that any depression or groove on the bonding surface be perceptible, under any circumstances, on the exposed surface.

11. Sampling for Test

11.1 Sampling for testing physical characteristics listed in **Table 1** shall be done in accordance with the provisions set forth in ANSI/ASQC ~~Z1.4-2003(R2013)~~Z1.4. The inspection level shall be special inspection level S-1, as noted in Table I of ANSI/ASQC ~~Z1.4-2003(R2013)~~Z1.4, and acceptable quality level (AQL) shall be 6.5 defects per hundred units as noted in Table II-A of ANSI/ASQC ~~Z1.4-2003(R2013)~~Z1.4 or as otherwise specified in **11.2**. The lot shall be expressed in units. A unit represents a single, manufactured, inventoried, finished carton or roll.

11.2 Sampling for testing physical characteristics listed in Table I of ANSI/ASQC ~~Z1.4-2003(R2013)~~Z1.4 shall be agreed upon by the purchaser and manufacturer as part of the procurement document.

12. Test Methods

Wall Base—Staining of Adjacent Surfaces Induced by Wall Base

12.1 *Scope*—This test method describes a technique for producing a stain or discoloration that wall base may cause when in contact with a light-colored surface, when exposed to elevated temperature aging under controlled conditions.

12.2 *Significance and Use*—Wall base often is required to be in contact with light-colored surfaces. In such applications, the discoloration or stain of the light-colored surfaces is objectionable. This test method provides a way to evaluate wall base for its staining characteristics.

12.3 *Apparatus*:

12.3.1 *Circulating-Air Oven*, capable of maintaining a temperature of $158 \pm 1.8^\circ\text{F}$ ($70 \pm 1^\circ\text{C}$).

TABLE 1 Characteristics and Tests

Characteristic	Requirement	Test Method	Reference
Composition of material	Certificate of compliance		6.1, 6.2, 6.3
Wear layer thickness	min 0.002 in. (0.05 mm)	F410	6.2.2
Flexibility	No crack or break	F137 (¼ in. mandrel)	8.1
Staining of adjacent surfaces induced by wall base	No staining of adjacent surfaces	Section 12 (see 12.1 – 12.7)	8.2
Resistance to light	Ave ΔE not greater than 8.0	F1515	8.3
Resistance to chemicals	No more than a slight change in surface dulling, surface attack, or staining	F925	8.4
Dimensional stability	Not more than ± 0.25 %	Section 12 (see 12.8 – 12.15)	8.5
Height	As specified, ±1 % of nominal height	Section 9	9.1
Thickness	As specified, 0.080 in. + 0.015 to –0.005 in. (2.03 mm + 0.38 mm to –0.13 mm) 0.125 in. to 0.375 in. + 0.015 to –0.015 in. (3.18 mm to 9.53 mm + 0.38 mm to –0.38 mm) greater than 0.375 in. + 0.020 to –0.020 in. (>9.53 mm + 0.51 mm to –0.51 mm)	F386	9.2
Length	As specified, not less than nominal value	Section 9	9.3

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12.4 *Materials*—Metal panels 2 in. (51 mm) square shall be cut from No. 20 gage (approximately 0.9 mm) sheet metal that has been finished with a white acrylic enamel. The panels shall be aged for at least 48 h, after finishing, before use in this test method.

12.5 *Test Specimen*— Prepare the test specimens from a production part. Cut the specimen in a rectangular shape 1 by 0.5 in. (25 by 13 mm). Test the specimen as received. Remove extraneous contamination with a mild soap solution or by mechanical means without abrading the surface of the specimen.

12.6 *Procedure:*

12.6.1 Place two wall base specimens from the same production part on the painted surface of one metal panel. Space specimens approximately 0.250 in. (6.4 mm) apart. Cover the wall base specimens with a second metal panel so that the painted surfaces of both metal panels are in contact with the wall base specimens.

12.6.2 Place the panel-wall base sandwich, thus formed, in the oven maintained at a temperature of 158 ± 1.8°F (70 ± 1°C). Place a 1-lb weight (0.5 kg mass) on top of the sandwich.

12.6.3 Simultaneously test a control panel without the wall base to check the effect of the test conditions on the finish itself. Expose no panel more than once.

12.6.4 Expose the sandwich assembly and control panel to the specified oven temperature for a period of 166 ± 1 h. Take care that no other volatile or vapor-producing materials, which might produce stain, are in the oven.