Designation: ~~F1516 – 13 (Reapproved 2018)~~ F1516 – 23

Standard Practice for Sealing Seams of Resilient Flooring Products by the Heat Weld Method (when Recommended)[1]

This standard is issued under the fixed designation F1516; 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 practice covers the instructions and precautions to be observed to ensure satisfactory performance of seams in resilient flooring sealed by the heat weld method.

1.2 *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.* See precaution information in 6.1.

1.3 *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]

F141 Terminology Relating to Resilient Floor Coverings

3. Terminology

3.1 For definitions of terms used in this practice refer to Terminology F141.

4. Significance and Use

4.1 Seams in some resilient flooring are heat sealed to prevent openings from forming between cut edges and to prevent penetrations of dirt, liquids, etc., into the seams. Decorative appearances may also be achieved using contrasting heat weld thread (rod).

5. Instructions

5.1 Flooring shall be installed in accordance with the manufacturer's instructions.

5.2 Particular attention shall be paid to proper cutting of seams and tightness of cut seams. Specified tightness of seams to be heat sealed (welded) will vary depending on the flooring product and type of tools used to perform the heat weld.

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[1] This practice is under the jurisdiction of ASTM Committee F06 on Resilient Floor Coverings and is the direct responsibility of Subcommittee F06.40 on Practices.

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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.

5.3 Prior to heat welding, seams shall be routed to a depth specified by the manufacturer. Routing can be accomplished with electric or hand routing tools as specified by the manufacturer. Follow flooring manufacturer's instructions for specific details.

5.4 Unless specified otherwise by the resilient manufacturer, wait 24 h before routing and heat welding the seams. This allows time for the adhesive to set. Heat welding must be completed before beginning initial flooring maintenance. Some tile products are routed at the factory, and on site routing is not required. Heat welding involves the melting of thread (rod) into the gap of a routed seam. Special electric hot air tools with variable temperature settings are required. Because temperature settings will vary, depending on the length and wire gauge of extension cord, room and under floor temperature, floor covering material, welding rod composition, etc, test welding is recommended. Verify the correct thread color, then using excess or scrap material, make test welds as needed to establish heat welding conditions. Next, do a trial length seam and evaluate after cooling to determine if the bond strength and appearance of the weld thread to the seam edges are satisfactory. Weld threads are available in a variety of plain, solid colors and patterned versions. The color or pattern of the thread can be selected to either match with the flooring color to hide or disguise the seam or contrast with the flooring color to accent the seam.

5.5 Approximately one-half of the weld thread thickness will adhere to the seam. The excess will be trimmed off flush with the surface of the flooring when cooled. Trimming of excess weld thread is accomplished using a one- or two-step process depending upon product type; one for most rubber products and in two steps for vinyl and linoleum products. Welded seams shall be allowed to cool before trimming. Follow manufacturer's specific recommendations. Trim knives and attachments are available from the flooring manufacturer or various flooring installation tool suppliers.

5.6 ~~Heating~~ The use of a topical sealer or focused surface heating of the trimmed seam ~~or use of a topical sealer~~(commonly referred to as "glazing") which is sometimes utilized to help blend the welded seam gloss and color with the flooring ~~material.~~ material may be required by the flooring manufacturer. Refer to manufacturer's literature for applicability and specifics.

5.7 *Repairs*—Follow steps 5.3 to 5.5. After repairing, spot maintain the seamed area so its appearance compares favorably with the surrounding flooring as it relates to color, gloss and overall appearance.

6. Precautions

6.1 Use caution when handling and using tools required for heat welding seams. Hot air guns can cause severe burns. Routing tools and trim knives are very sharp. Be sure electric extension cords are in good condition and connected to a ground fault receptacle.

6.2 Heat welding is a function of temperature and speed. Welding too cold will not give good bonding. Welding too hot can distort the flooring product surface adjoining the seam line.

6.3 The use of welding nozzles/tips designed to restrict heat and direct heat flow to the thread and groove can improve the weld quality and appearance, reducing the scorch or blushing of the factory applied finish adjacent to the seam.

7. Keywords

7.1 heat weld; installation; resilient sheet flooring; resilient tile; sealing