



Standard Specification for Non-Asbestos Fiber-Cement Roofing Shingles, Shakes, and Slates¹

This standard is issued under the fixed designation C 1225; 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 non-asbestos, fiber-cement shingles, shakes, and slates (roofing products) of nominally uniform thickness (non-tapered) and texture, including accessories designed to provide the weather-exposed surfaces on roofs of buildings.

1.2 This specification is not applicable to asbestos-cement roofing shingles (Specification C 222), particle board (Terminology D 1554), or cement-bonded particleboards (Specification BS 5669: Part 4) and (ISO 8335).

1.3 This specification does not include details of product installation, or installed system performance such as levels of fire resistance which is covered under Test Methods E 108.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses (SI units) are provided for information only.

2. Referenced Documents

2.1 ASTM Standards:

C 222 Specification for Asbestos-Cement Roofing Shingles²

C 1154 Terminology for Asbestos and Fiber-Cement²

C 1185 Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing, and Siding Shingles, and Clapboards²

D 1554 Terminology Relating to Wood-Base Fiber and Particle Panel Materials²

E 108 Test Methods for Fire Tests of Roof Coverings³

2.2 British Standards:⁴

BS 5669: Part 4 Specification for cement bonded particle-board

2.3 International Standards:⁴

ISO 8335 Cement-bonded particleboards—Boards of Portland or equivalent cement reinforced with fibrous wood particles⁴

3. Terminology

3.1 *Definitions*—Refer to Terminology C 1154.

4. Manufacture and Composition

4.1 *Manufacture*—These products may be formed either with or without pressure and cured, either under natural or accelerated conditions, to meet the physical requirements of this specification.

4.2 *Composition*—This specification is applicable to fiber-reinforced cement roofing products consisting essentially of an inorganic hydraulic binder or a calcium silicate binder formed by the chemical reaction of a siliceous material and a calcareous material reinforced by organic fibers, inorganic non-asbestos fibers, or both. Process aids, fillers, and pigments which are compatible with fiber-reinforced cement may be added.

5. Mechanical and Physical Properties

5.1 Mechanical and physical properties shall be determined on uncoated products wherever practical. Where products are supplied coated, this material shall also be tested with the results identified as applying to coated material. Failure of the coating as a consequence of the mechanical testing shall not constitute failure of the product. Accessory products shall be excluded from these requirements.

5.1.1 Sampling and inspection for mechanical and physical properties shall be conducted in accordance with Test Methods C 1185.

6. Requirements

6.1 Mechanical Requirements:

6.1.1 *Flexural Strength*—When tested in accordance with Test Methods C 1185, the product shall be classified according to its modulus of rupture. The product modulus of rupture and breaking moment in the primary strength direction shall be not less than that specified in Table 1.

6.1.2 Where a manufacturer states a minimum product modulus of rupture, it shall be at the 4 % acceptable quality level (AQL) at the 90 % confidence limit as are the values of Table 1.

6.1.3 The primary strength direction is that heaviest loaded direction which will resist wind uplift when the product is installed.

¹ This specification is under the jurisdiction of ASTM Committee C17 on Fiber-Cement Products and is the direct responsibility of Subcommittee C17.02 on Non-Asbestos Fiber Cement Products.

Current edition approved Dec. 10, 2000. Published December 2000. Originally published as C 1225–93. Last previous edition C 1225–97.

² *Annual Book of ASTM Standards*, Vol 04.05.

³ *Annual Book of ASTM Standards*, Vol 04.07.

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.