



Standard Specification for Flat Asbestos-Cement Sheets¹

This standard is issued under the fixed designation C 220; 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 asbestos-cement sheets in flat form designed for industrial, commercial, and general building purposes, of the following types:

1.1.1 *Flat Sheets, Type F (Flexible)*—An asbestos-cement flat sheet suitable for exterior and interior use, where a board having higher strength and density, smoother surface, greater flexibility, and lower moisture absorption is desired.

1.1.2 *Flat Sheets, Type U (Utility)*—An asbestos-cement flat sheet suitable for exterior and interior use, having sufficient strength for general utility and construction purposes, and where a board having maximum flexibility, highest density, smoother surface, and lower moisture absorption is not essential.

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

2. Referenced Documents

2.1 ASTM Standards:

C 458 Test Method for Organic Fiber Content of Asbestos-Cement Products²

C 459 Test Methods for Asbestos-Cement Flat Products²

2.2 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)³

2.3 Military Standard:

MIL-STD-129 Marking for Shipment and Storage³

3. Materials and Manufacture

3.1 Flat asbestos-cement sheets shall be composed of a combination of asbestos fiber and portland cement or portland blast-furnace slag cement, with or without the addition of curing agents, water-repellent substances, mineral fillers, coat-

ings, pigments, or mineral granules, formed under pressure and cured to meet the physical requirements of this specification. Sheets shall not contain more than 1 mass % organic fiber, as determined in accordance with Test Method C 458. Table 1 and Table 2.

4. Dimensions

4.1 Flat asbestos-cement sheets are normally supplied in the commercial dimensions given in Table 3.

5. Permissible Variations in Dimensions

5.1 *Thickness*—The average thickness of all flat sheets supplied under this specification shall be as prescribed in Table 4. The average thickness of any one sheet shall not differ from the average of all sheets by more than 10 %.

5.2 *Width and Length*—The permissible variation from the nominal width shall be $\pm 1/16$ in. (± 1.6 mm), and, from the nominal length, $\pm 1/8$ in. (± 3.2 mm), as measured after 48 h at 73°F (25°C) and 50 % relative humidity.

5.3 *Squareness*—The length of the diagonals shall not vary by more than $1/64$ in./ft (1.3 mm/m) of length of the sheet. Opposite sides of the sheet shall not vary in length by more than $1/64$ in./ft.

5.4 *Edge Straightness*—The sheet edges shall be straight within $1/64$ in./ft (1.3 mm/m) of length or width. Straightness shall be determined by stretching a string or wire along the edge to be measured from one corner to the adjacent corner and measuring the greatest distance between the string or wire and the sheet edge.

6. Physical Requirements

6.1 *Flexural Strength*—The average breaking load in newtons (or pounds-force) of dried specimens loaded as simple beams on a span of 10 in. (254 mm) with the load applied equally and simultaneously at both one-third points of the span.

6.1.1 Flexural strength shall not be less than that shown in Table 1.

6.2 *Water Absorption*—The average water absorption shall not exceed the following mass percentages:

Type	Water Absorption, max, %
F	25
U	30

6.3 All measurements and tests necessary for determining the conformity of the asbestos-cement sheets with this specification shall be made in accordance with Test Methods C 459.

¹ This specification is under the jurisdiction of ASTM Committee C-17 on Fiber-Reinforced Cement Products and is the direct responsibility of Subcommittee C17.03 on Asbestos Cement Sheet Products and Accessories.

Current edition approved April 24, 1991. Published June 1991. Originally published as C 220 – 49 T. Last previous edition C 220 – 88.

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

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.