



Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels¹

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1. Scope*

1.1 This standard establishes classifications of abuse resistance based on the abrasion resistance and impact resistance performance of nondecorated interior gypsum panel products and fiber-reinforced cement panels (abuse resistant wall panels).

1.1.1 This standard is a method of classifying gypsum panel product performance and is not intended to classify systems for abuse resistance.

1.2 The values stated in inch-pound and SI (metric) units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system shall be used independent of the other. Values from the two systems shall not be combined.

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:²

C11 Terminology Relating to Gypsum and Related Building Materials and Systems

C473 Test Methods for Physical Testing of Gypsum Panel Products

C840 Specification for Application and Finishing of Gypsum Board

C1154 Terminology for Non-Asbestos Fiber-Reinforced Cement Products

D4977 Test Method for Granule Adhesion to Mineral Surfac

D5420 Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact)

E695 Test Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading

2.2 ISO Documents:

ISO 6707-1 Building and Civil Engineering—Vocabulary—Part 1: General Terms

3. Terminology

3.1 Definitions of terms shall be in accordance with Terminologies **C11** and **C1154**.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *failure (hard body impact)*, *n*—test result constituted by the penetration or deformation of the wall cavity by the impact head establishing a residual deflection of the panel exceeding the nominal thickness of the test panel.

3.2.2 *structural failure (soft body impact)*, *n*—a test result constituted by the penetration or deformation of the wall cavity by the soft body impact bag establishing a residual deflection of any area on the test panel that exceeds the nominal thickness of the test panel.

3.2.2.1 *deformation*, *n*—change of shape or dimension or both.

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3.2.2.2 *surface damage*, *n*—pulverization of the core of the test panel at the point of impact, which is evidenced by cracking, creasing, or other visible damage short of failure as defined in 3.2.2.

3.2.3 *residual deflection*, *n*—permanent deformation of a building element, component, or structure after removal of applied force.

3.2.3.1 *Discussion*—Also called permanent set or residual deformation.

4. Significance and Use

4.1 Each abuse/impact property of abuse resistant wall panels is divided into three classification levels. The three levels of classification are: Level I, Level II, and Level III, with Level I representing the lowest rating for any given property. The test methods specified are utilized to establish the abuse-resistance classification of an abuse resistant wall panel. Each

¹ This classification is under the jurisdiction of ASTM Committee **C11** on Gypsum and Related Building Materials and Systems and is the direct responsibility of Subcommittee **C11.01** on Specifications and Test Methods for Gypsum Products.

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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.