



Designation: C1858 – 17

Standard Practice for Design, Construction, and Material Requirements for Direct Hung Suspended T-bar Type Ceiling Systems Intended to Receive Gypsum Panel Products in Areas Subject to Earthquake Ground Motions¹

This standard is issued under the fixed designation C1858; 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 installation requirements of direct hung suspended t-bar type ceiling systems intended to receive gypsum panel products constructed as flat, single level, surrounded on all sides by a wall, bulk head, or soffit braced to the building structure to resist the effects of earthquake ground motions.

1.2 Ceiling assembly shall not be intended to support live loads.

1.3 This standard addresses ceiling systems with dead loads up to 10 lbs/ft² (48.8 kg/m²).

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard

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

1.7 *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.*

¹ This test method is under the jurisdiction of ASTM Committee C11 on Gypsum and Related Building Materials and Systems and is the direct responsibility of Subcommittee C11.03 on Specifications for the Application of Gypsum and Other Products in Assemblies.

Current edition approved May 15, 2017. Published May 2017. DOI: 10.1520/C1858-17

2. Referenced Documents

2.1 ASTM Standards:

A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire²

C635/C635M Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings³

C645 Specification for Nonstructural Steel Framing Members⁴

C754 Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products⁴

C1177/C1177M Specification for Glass Mat Gypsum Substrate for Use as Sheathing⁴

C1396 Specification for Gypsum Board⁴

C1658/C1658M Specification for Glass Mat Gypsum Panels⁴

3. Terminology

3.1 *Definitions*—Terms shall be as defined in Terminology C11.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *counter sloping wire, n*—opposing suspension wire intended to counteract the force of an out of plumb suspension wire and maintain alignment of the system.

3.2.2 *cross runner, n*—the secondary support members or cross beams of a mechanical ceiling suspension system transferring ceiling load to the main runner.

3.2.3 *diaphragm, n*—horizontal system acting to transmit lateral forces to the vertical resisting elements.

3.2.4 *direct hung ceiling, n*—load carrying ceiling components that are fastened directly to structure.

3.2.5 *main runner, n*—the primary or main beams (supports) of the ceiling suspension system.

² Annual ASTM Book of Standards, Vol.01.06.

³ Annual ASTM Book of Standards, Vol.04.06.

⁴ Annual ASTM Book of Standards Vol.04.01.