



Standard Guide for Installation of Gypsum Products in Concealed Radiant Ceiling Heating Systems¹

This standard is issued under the fixed designation C 1546; 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 guide² provides information for trades installing gypsum products in conjunction with a concealed radiant ceiling heating system constructed from thin sheet flexible radiant heating panels, and for the installation of gypsum products after repair of existing concealed radiant ceiling heating systems constructed from heating cable or thin sheet flexible radiant heating panels.

1.2 This guide does not purport to address any aspect of concealed radiant heating system design or performance, and is limited to the proper installation of gypsum products specified for use in a concealed radiant ceiling heating system.

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 requirements prior to use.*

1.4 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes shall not be considered as requirements of the standard.

2. Referenced Documents

2.1 ASTM Standards:

C 840 Specification for Application and Finishing of Gypsum Board³

C 841 Specification for Installation of Interior Lathing and Furring³

C 842 Specification for Application of Interior Gypsum Plaster³

3. Terminology

3.1 Definitions:

3.1.1 *concealed radiant heating system, n*—a system that operates by heating the building materials that conceal the heat

source, which in turn transfer the heat into the heated area by radiant emission.

3.1.2 *facing, n*—the finished surface layer through which heat is transferred into a heated area.

3.1.3 *flexible radiant heating panel, n*—a thin sheet heating element intended to produce heat when connected to an electrical supply.

3.1.4 *furring, n*—spacer elements added to a building structure to facilitate fastening of gypsum panel products.

3.1.5 *gypsum product, n*—building material intended for use in radiant heated ceiling construction, containing gypsum in its composition or construction.

3.1.5.1 *Discussion*—The gypsum products most often associated with radiant heating systems are gypsum board and gypsum plaster.

3.1.6 *heating cable, n*—an electrically insulated cable intended to produce heat when connected to an electrical supply.

4. Significance and Use

4.1 The purpose of this guide is to provide information to gypsum product installers for the avoidance of hazards associated with the installation of gypsum products adjacent to, or surrounding, electric heating components and conductors; and to avoid damage to gypsum products when used in conjunction with a concealed radiant heating system.

4.2 The information given in this guide is applicable to repair of existing cable heating systems and to new construction of radiant heating systems constructed from flexible radiant heating panels.

5. Summary of Guide

5.1 Heating System Design:

5.1.1 The heating system shall be designed to satisfy the heating needs of the building and to work effectively with all building materials specified for use in the heating system installation.

NOTE 1—The architect bears the responsibility of preparing and correlating complete plans and specifications, and to engage a professional familiar with the heating system to design the system to meet the requirements of 5.1.1 and 5.1.2.

5.1.2 The heating system shall be designed so that a gypsum product is not exposed to a temperature more than 125°F

¹ This guide 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 October 10, 2002. Published December 2002.

² The first edition of this guide replaced Appendix X.7 of Specification C 840 - 99a.

³ *Annual Book of ASTM Standards*, Vol 04.01.