



Standard Practice for Installation and Use of Radiant Barrier Systems (RBS) in Commercial/Industrial Building Construction¹

This standard is issued under the fixed designation C1744; 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 has been prepared for use by the designer, specifier, builder, and the installer of radiant barrier systems (RBS) for use in commercial/industrial building construction not otherwise restricted from use. The scope is limited to instruction relative to the use and installation of RBS, including a surface(s) normally having an emittance of 0.1 or less, such as metallic foil or metallic foil deposits, mounted on substrates. Some examples that this practice is intended to address include: (1) low-emittance surfaces in vented building envelope cavities intended to retard radiant transfer across the airspace; (2) low-emittance surfaces at interior building surfaces intended to retard radiant transfer to, or from, building inhabitants; and (3) low-emittance surface at interior building surfaces intended to reduce radiant transfer to, or from, radiant heating or cooling systems.

1.2 This practice covers the installation process from pre-installation inspection through the post-installation procedure. It does not cover the production of the radiant barrier materials. (See Specification C1313.)

1.3 This practice is not intended to replace the manufacturer's installation instructions but shall be used in conjunction with such instructions. This practice is not intended to supercede local, state, federal, or international codes.

1.4 This practice assumes that the installer possesses a good working knowledge of the applicable codes and regulations, safety practices, tools, equipment, and methods necessary for installation of radiant barrier materials. It also assumes that the installer understands the fundamentals of commercial/industrial building construction that affect the installation of RBS.

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

¹ This practice is under the jurisdiction of ASTM Committee C16 on Thermal Insulation and is the direct responsibility of Subcommittee C16.21 on Reflective Insulation.

Current edition approved May 1, 2012. Published May 2012. Originally approved in 2010. Last previous edition approved in 2010 as C1744–10. DOI: 10.1520/C1744–12.

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 safety and health practices and determine the applicability of regulatory limitations prior to use. For specific precautionary statements see Sections 5 and 7.*

1.6.1 *When the installation or use of radiant barrier materials, accessories, and systems has the potential to pose safety or health problems, the manufacturer shall provide the user appropriate current information regarding any known problems associated with the use of the product of the company and shall also specify protective measures.*

2. Referenced Documents

2.1 ASTM Standards:²

C168 Terminology Relating to Thermal Insulation

C1313 Specification for Sheet Radiant Barriers for Building Construction Applications

2.2 NFPA Standards:³

NFPA 54 National Fuel Gas Code

NFPA 211 Standard for Chimneys, Fireplaces and Vents

2.3 Other Document:⁴

CPSC Product Safety Fact Sheet No. 18 “The Home Electrical System”

3. Terminology

3.1 *Definitions*—For definitions of terms used in this practice, refer to Terminology C168.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *applicator, n*—person or persons who apply radiant barrier materials in buildings.

3.2.2 *conditioned space, n*—any space in a building that is served by a heating or cooling system.

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.

³ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁴ Available from U.S. Consumer Product Safety Commission (CPSC), 4330 East West Hwy., Bethesda, MD 20814, <http://www.cpsc.gov>.