



Designation: E1042 – 22

Standard Classification for Acoustically Absorptive Materials Applied by Trowel or Spray¹

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This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This classification covers materials applied by trowel or spray to surfaces for the purpose of increasing their acoustical absorption.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*²

C423 Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method

C634 Terminology Relating to Building and Environmental Acoustics

E84 Test Method for Surface Burning Characteristics of Building Materials

E795 Practices for Mounting Test Specimens During Sound Absorption Tests

E859 Test Method for Air Erosion of Sprayed Fire-Resistive Materials (SFRMs) Applied to Structural Members

3. Terminology

3.1 Terms used in this standard are defined either in Terminology **C634** or within this standard. The definition of terms explicitly given within this standard take precedence over

¹ This classification is under the jurisdiction of ASTM Committee **E33** on Building and Environmental Acoustics and is the direct responsibility of Subcommittee **E33.04** on Application of Acoustical Materials and Systems.

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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.

definitions given in Terminology **C634**. The definitions within Terminology **C634** and this standard take precedence over any other definitions of defined terms found in any other documents, including other documents that may be referenced in this standard.

4. Significance and Use

4.1 Acoustically absorptive materials are used for the control of reverberation and echoes in rooms. This standard provides a classification method for acoustically absorptive materials applied directly to surfaces by trowel or by spray.

5. Basis of Classification

5.1 Classification is made according to type of material, acoustical properties, flame spread, and dust propensity.

5.2 *Material Type*—Classification of acoustically absorptive material according to material type is as follows:

5.2.1 *Type I*—Material is cementitious. Type I ingredients shall be uniformly mixed and ready for use by the addition of water. When received, the material in the container shall be dry and shall not be caked or sticky. After the material has been properly mixed with the amount of water specified by the manufacturer, the material shall be of such a consistency that it can be applied with a plastering trowel or with a suitable plaster-spraying machine.

5.2.2 *Type II*, Material is fibrous. Type II material shall consist of mineral or organic fiber with an integrally mixed binder, or it may be supplied for use with a liquid binder added at the time of application.

5.2.3 *Type III*, Material is cellular plastic and is intended for application over beams, walls, ceilings, and columns. Type III materials are normally designed to be mixed at the time of application.

5.3 *Noise Reduction Coefficient*—Classification of acoustically absorptive material according to its noise reduction coefficient (NRC) shall be as follows: