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Standard Practice for EVALUATING HIGH-DENSITY RIGID CELLULAR THERMOSETS¹

This standard is issued under the fixed designation D 4098; 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.

^{ε1} NOTE—Editorial changes were made throughout this practice in February 1987.

1. Scope

1.1 This practice describes the basic test procedures for determination of physical properties and reporting of data necessary to evaluate high-density rigid cellular thermoset material.

1.2 This practice also establishes a specific physical property data reporting procedure for such thermoset materials.

1.3 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems 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:

C 177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus²

C 518 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus³

D 149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies⁴

D 570 Test Method for Water Absorption of Plastics⁵

D 618 Methods of Conditioning Plastics and Electrical Insulating Materials for Testing⁵

D 638 Test Method for Tensile Properties of Plastics⁵

D 648 Test Method for Deflection Temperature of Plastics Under Flexural Load⁵

D 695 Test Method for Compressive Properties of Rigid Plastics⁵

D 696 Test Method for Coefficient of Linear Thermal Expansion of Plastics⁵

D 790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials⁵

D 883 Definitions of Terms Relating to Plastics⁶

D 1622 Test Method for Apparent Density of Rigid Cellular Plastics⁷

3. Terminology

3.1 Definitions:

3.1.1 *General*—The definitions of terms used in this practice are in accordance with Definitions D 883.

3.1.2 *thermoset, n*—a plastic that, when cured by application of heat or other means, is substantially infusible and insoluble.

3.2.1 *cellular plastics*—plastics containing numerous small cavities (cells), interconnecting or not, distributed throughout the mass. These cells cannot be mechanically assembled, but are produced through the “in situ” plastics processing

¹ This practice is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.22 on Cellular Plastics.

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² *Annual Book of ASTM Standards*, Vols 04.06, 08.01, and 14.01.

³ *Annual Book of ASTM Standards*, Vols 04.06 and 14.01.

⁴ *Annual Book of ASTM Standards*, Vols 08.01, 09.02, and 10.02.

⁵ *Annual Book of ASTM Standards*, Vol 08.01.

⁶ *Annual Book of ASTM Standards*, Vols 08.01 and 08.04.

⁷ *Annual Book of ASTM Standards*, Vol 08.02.