



Designation: D1896/D1896M – 10 (Reapproved 2017)

Standard Practice for Transfer Molding Test Specimens of Thermosetting Compounds¹

This standard is issued under the fixed designation D1896/D1896M; 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 a general procedure for the transfer molding of mechanical and electrical test specimens of thermosetting molding materials.

NOTE 1—The utility of this practice has been demonstrated for the molding of thermosetting molding compounds exhibiting intermediate viscosity non-Newtonian flow.

1.2 The values stated in either SI or inch-pound units are to be regarded separately as standard. The values stated in each system are not always exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems can result in nonconformance with this practice.

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 limitations prior to use.*

NOTE 2—There is no known ISO equivalent to this standard.

1.4 *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

D883 Terminology Relating to Plastics

D957 Practice for Determining Surface Temperature of Molds for Plastics

D3123 Test Method for Spiral Flow of Low-Pressure Ther-

mosetting Molding Compounds

D3795 Test Method for Thermal Flow, Cure, and Behavior Properties of Pourable Thermosetting Materials by Torque Rheometer

3. Terminology

3.1 *Definitions:*

3.1.1 *General*—Definitions of terms applying to this practice appear in Terminology D883.

3.1.2 *transfer molding, n*—a method of forming articles by fusing a plastic material in a chamber and then forcing essentially the whole mass into a hot mold where it solidifies.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *breathing, v*—the operation of opening a mold or press for a very short period of time at an early stage in the process of cure.

3.2.1.1 *Discussion*—Breathing allows the escape of gas or vapor from the molding material and reduces the tendency of thick moldings to blister.

3.2.2 *cavity (of a mold), n*—the space within a mold to be filled to form the molded product.

3.2.3 *clamp pressure, n*—the pressure applied to the mold to keep it closed, in opposition to the fluid pressure of the compressed molding material.

3.2.4 *fill time, n*—the time required to fill each cavity used in the mold. Fill times can be critical to well molded parts (see Note 3 under 4.4).

3.2.5 *minimum plunger pressure, n*—the minimum pressure, on the ram, required to just fill each cavity used in the mold at a specified temperature and reasonable fill time.

3.2.6 *vent, n*—a hole, slot, or groove provided in a mold or machine to allow air and gas to escape during molding, extrusion, or forming.

4. Significance and Use

4.1 Transfer molding is particularly suited to thermosetting materials of intermediate plasticity. Fixed molding parameters cannot be specified for each type of material. Molding compounds of the same type come in many different plasticities measured in accordance with Test Methods D3123 and D3795.

¹ This practice is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.09 on Specimen Preparation.

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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.

*A Summary of Changes section appears at the end of this standard