



Standard Classification for Fluoropolymer Micropowders¹

This standard is issued under the fixed designation D 5675; 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 classification system provides a method of adequately identifying PTFE micropowders using a system consistent with that of Classification System D 4000. It further provides a means for specifying these materials by the use of a simple line callout designation. This classification covers fluoropolymer micropowders that are used as lubricants and as additives to other materials in order to improve lubricity or to control other characteristics of the base material.

1.2 These powders are sometimes known as lubricant powders. The powders usually have a much smaller particle size than those used for molding or extrusion, and they generally are not processed alone. The test methods and properties included are those required to identify and specify the various types of fluoropolymer micropowders. Recycled fluoropolymer materials meeting the detailed requirements of this classification are included (see Guide D 5033).

1.3 These micropowders and the materials designated as filler powders (F) in ISO 12086-1 and ISO 12086-2 are equivalent.²

1.4 The values stated in SI units as detailed in IEEE/ASTM SI 10 are to be regarded as standard.

1.5 *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.* Specific precautionary statements are given in 7.1.2.

2. Referenced Documents

2.1 ASTM Standards:³

D 854 Test Method for Specific Gravity of Soils

D 883 Terminology Relating to Plastics

D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer

D 1600 Terminology for Abbreviated Terms Relating to Plastics

D 3892 Practice for Packaging/Packing of Plastics

D 4000 Classification System for Specifying Plastic Materials

D 4464 Test Method for Particle Size Distribution of Catalytic Material by Laser Light Scattering

D 4567 Test Method for the Single-Point Determination of the Specific Surface Area of Catalysts Using Nitrogen Adsorption by Continuous Flow Method

D 4591 Test Method for Determining Temperatures and Heats of Transitions of Fluoropolymers by Differential Scanning Calorimetry

D 4895 Specification for Polytetrafluoroethylene (PTFE) Resins Produced from Dispersion

D 5033 Guide for the Development of Standards Relating to the Proper Use of Recycled Plastics

D 5740 Guide for Writing Material Standards in the D 4000 Format

IEEE/ASTM SI 10 Standard for Use of the International System of Units (SI): The Modern Metric System

2.2 ISO Standards:⁴

ISO 12086-1 Plastics-Fluoropolymer Dispersions and Moulding and Extrusion Materials Part 1: Designation and System and Basis for Specification

ISO 12086-2 Plastics-Fluoropolymer Dispersions and Moulding and Extrusion Materials Part 2: Preparation of Test Specimens and Determination of Properties

3. Terminology

3.1 *Definitions*—The terminology given in Terminology D 883 is applicable to this classification unless otherwise specified.

3.1.1 *bulk density, n*—the mass per unit volume, in grams per litre of a loosely packed material, such as a molding powder. **D 4895**

3.1.2 *lot, n*—one production run or uniform blend of two or more production runs. **D 4895**

¹ This classification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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² Designations, specifications, and test methods are included in ISO 12086-1 and 12086-2.

³ 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.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

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