



Designation: F 99 – 76 (Reapproved 1993)

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Practice for Preparation of Flexible Barrier Material Specifications¹

This standard is issued under the fixed designation F 99; 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 the preparation of specifications for flexible barrier materials.

1.2 *This standard does not purport to address all of the safety problems, 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.*

2. Referenced Documents

2.1 ASTM Standards:

D 1898 Practice for Sampling of Plastics²

E 122 Practice for Choice of Sample Size to Estimate a Measure of Quality for a Lot or Process³

F 17 Terminology Relating to Flexible Barrier Materials⁴
Form and Style for ASTM Standards⁵

2.2 Military Standard:

MIL-STD-105D Sampling Procedures and Tables for Inspection by Attributes⁶

3. Terminology

3.1 *specification*—a precise statement of a set of requirements to be satisfied by a material, product, system, or service, indicating, whenever appropriate, the procedure by means of which it may be determined whether the requirements given are satisfied. As far as practicable, it is desirable that the requirements be expressed numerically in terms of appropriate units together with their limits.

3.1.1 There are five important requisites: accuracy and precision, workability, suitability, flexibility, and acceptability.

3.2 *barrier*—see Terminology F 17.

3.3 *flexible*—see Terminology F 17.

4. General Requirements

4.1 *Type of Specification*—The two conditions that may exist when preparation of a specification for a flexible barrier

material is initiated are: 1) an ASTM specification for the material exists, but is not oriented toward flexible barrier use (that is, polyethylene film prepared as a plastic material specification) and 2) no published ASTM specification for the material exists.

4.2 *Specification Coverage*—If an ASTM specification for the material exists, the specification prepared by Committee F-2 will reference the specification and be a delineation of the requirements therein with the addition of those requirements covering use as a barrier material. If there is no published ASTM specification for the material, then the specification prepared will include both properties of general interest and specific requirements for flexible barrier use.

4.3 *Specification Format*—Specifications will be prepared in accordance with the *Form and Style for ASTM Standards*. To the maximum extent feasible, the statement of numerical requirement values shall be in the form of a cell system. These in turn should be categorized where possible into degrees of severity of service for which the particular property range is intended (that is, mild, moderately heavy, heavy).

5. Detailed Requirements

5.1 *Tolerances*—All requirements with numerical values will have tolerances stated as ranges: minimum-maximum, or plus or minus percentages of the desired value.

5.2 *Proprietary Values*—Requirements should be based on values representative of more than one manufacturer's product where possible.

5.3 Requirements:

5.3.1 Physical requirements shall include the following as applicable:

5.3.1.1 Thickness:

- Gage.
- Uniformity.
- Yield.

5.3.1.2 Appearance:

- Color.
- Opacity.
- Smoothness and Gloss.

5.3.1.3 Curl or Bagginess, or both.

5.3.1.4 Density.

5.3.1.5 Bond Strength.

5.3.1.6 Tensile Strength.

5.3.1.7 Tear Strength.

5.3.1.8 Seal Strength.

5.3.1.9 Shrinkage.

¹ This practice is under the jurisdiction of ASTM Committee F-2 on Flexible Barrier Materials and is the direct responsibility of Subcommittee F02.30 on Test Methods.

Current edition approved July 30, 1976. Published October 1976.

² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 14.02.

⁴ *Annual Book of ASTM Standards*, Vol 15.09.

⁵ Available from ASTM Headquarters, 1916 Race St., Philadelphia, PA 19103.

⁶ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.