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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Practice for Sampling of Plastics¹

This standard is issued under the fixed designation D 1898; 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.

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

1. Scope

1.1 This practice is primarily a statement of principles to guide purchasers of plastic materials purchased under specifications to prepare sampling plans that will describe sampling procedures and that will enable them to determine within practical limits whether or not the products meet the specifications.

1.2 The same principles may be used to guide the preparation of specifications in quantitative terms.

1.3 Some of the same principles may be used to determine the actual quality of a product, including its average and variation above and below that average, with respect to a particular property.

1.4 Since the design of probability sampling depends upon the ultimate use of the samples and the resulting data, consideration must be given to the intended inspection of the samples. Hence, the design of plans for examination and testing of samples for both their attributes and their variables is included.

1.5 This practice is intended for general guidance when little information is available on the variability of the material and of the method of inspection. In some cases, quality control chart methods may be substituted for the procedures herein. In any event, a statistician should be consulted if difficulty is encountered in applying the recommendations herein to the design of a specific sampling problem.

1.6 There is no intent to guide the *disposition* of material that is found to be off-specification by sampling and inspection; disposition is a contractual matter.

1.7 The following outline is presented to facilitate use of this practice:

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1.8 The values stated in SI units are to be regarded as the standard.

1.9 *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:

E 122 Practice for Choice of Sample Size to Estimate the Average Quality of a Lot or Process²

2.2 Military Standards:³

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-414 Sampling Procedures and Tables for Inspection by Variables for Percent Defective

3. Significance and Use

3.1 The purpose of the sample may be as follows:

3.1.1 To estimate properties of a lot or shipment, such as the percentage of some constituent, the fraction of the items that fail to meet a specific requirement, the average weight or property of an item, or the quality or total weight of the shipment, or simple identity.

3.1.2 To dispose of the lot or shipment rationally, without the intermediate step of the formation of an estimate.

3.1.3 To define new materials in terms of their properties.

3.1.4 To provide material for evaluation of a test method.

4. General Philosophy

4.1 Sampling is a means employed to meet the problem of estimating the quality of a lot from the inspection of only part

¹ This practice is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.13 on Statistical Techniques.

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² *Annual Book of ASTM Standard*, Vol 14.02.

³ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.