



Standard Guide for Selection of Sampling Plans for Inspection of Electrodeposited Metallic and Inorganic Coatings¹

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1. Scope

1.1 This guide gives guidance in the selection of sampling plans to be used in the inspection of electrodeposited and related coatings on products for the purpose of deciding whether submitted lots of coated products comply with the specifications applicable to the coatings. This supplements Test Method B602 by giving more information on sampling inspection and by providing additional sampling plans for the user who finds the limited choice of plans in Test Method B602 to be inadequate.

1.2 When using a sampling plan, a relatively small part of the articles in an inspection lot is selected and inspected. Based on the results, a decision is made that the inspection lot either does or does not satisfactorily conform to the specification.

1.3 This guide also contains several sampling plans. The plans are attribute plans, that is, in the application of the plans each inspected article is classified as either conforming or nonconforming to each of the coating requirements. The number of nonconforming articles is compared to a maximum allowable number. The plans are simple and relatively few. Additional plans and more complex plans that cover more situations are given in the Refs (1-7) at the end of this guide and in MIL-STD-105.

1.4 Acceptance sampling plans are used:

1.4.1 When the cost of inspection is high and the consequences of accepting a nonconforming article are not serious.

1.4.2 When 100 % inspection is fatiguing and boring and, therefore, likely to result in errors. In these cases a sampling plan may provide greater protection than 100 % inspection.

1.4.3 When inspection requires a destructive test. Here, sampling inspection must be used.

1.5 Another general type of acceptance sampling plan that is not covered in these guidelines is the variables plan in which measured values of characteristics are analyzed by statistical

procedures. Such plans, when applicable, can reduce inspection cost and increase quality protection. Information on variables plans is given in Test Method B762, MIL-STD-414, ANSI/ASQC Z1.9-1979, and Refs (1-2).

2. Referenced Documents

2.1 *ASTM Standards*:²

B602 Test Method for Attribute Sampling of Metallic and Inorganic Coatings

B762 Test Method of Variables Sampling of Metallic and Inorganic Coatings

2.2 *ANSI Standard*:³

ANSI/ASQC Z1.9-1979 Sampling Procedures and Tables for Inspection by Variables for Percent Nonconformance

2.3 *Military Standards*:⁴

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. General

3.1 *Procedure*—The use of acceptance sampling consists of a series of decisions and actions. These are listed in order below and are discussed in this standard.

3.1.1 Select characteristics to be inspected,

3.1.2 Select type of sampling plan,

3.1.3 Select quality level,

3.1.4 Define inspection lot,

3.1.5 Select sample,

3.1.6 Inspect sample,

3.1.7 Classify inspection lot, and

3.1.8 Dispose of inspection lot.

3.2 The need for acceptance sampling arises when a decision must be made about what to do with a quantity of articles.

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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.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁴ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.