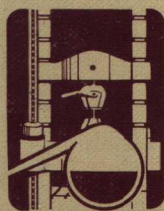


1991



ANNUAL BOOK OF ASTM STANDARDS

SECTION

3

**Metals Test Methods and
Analytical Procedures**



VOLUME

03.04

**Magnetic Properties; Metallic
Materials for Thermostats, Electrical
Resistance, Heating, Contacts**

Revision issued annually

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SECTION

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**Metals Test Methods and
Analytical Procedures**



VOLUME

03.04

**Magnetic Properties; Metallic
Materials for Thermostats, Electrical
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Includes standards of the following committees:

A-6 on Magnetic Properties

B-4 on Metallic Materials for Thermostats and for
Electrical Resistance, Heating and Contacts

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Foreword

ASTM, founded in 1898, is a scientific and technical organization formed for “the development of standards on characteristics and performance of materials, products, systems, and services; and the promotion of related knowledge.” It is the world’s largest source of voluntary consensus standards.

The Society operates through 132 main technical committees with 2067 subcommittees. These committees function in prescribed fields under regulations that ensure balanced representation among producers, users, general interest, and consumer participants.

The Society currently has 32,800 members, of whom approximately 19,825 serve as technical experts on committees, representing 96,800 units of participation.

Membership in the Society is open to all concerned with the fields in which ASTM is active. A membership application may be found at the back of this volume. Additional information may be obtained from Member and Committee Services, ASTM, 1916 Race St., Philadelphia, PA 19103.

1991 Annual Book of ASTM Standards

The 1991 *Annual Book of ASTM Standards* consists of 68 volumes, divided among 16 sections, of which this volume is one. It contains formally approved ASTM standard classifications, guides, practices, specifications, test methods, and terminology and related material such as proposals. These terms are defined as follows in the Regulations Governing ASTM Technical Committees:

Categories:

standard—as used in ASTM, a document that has been developed and established within the consensus principles of the Society and that meets the approval requirements of ASTM procedures and regulations.

Discussion—The term “standard” serves in ASTM as an adjective in the title of documents, such as test methods or specifications, to connote specified consensus and approval. The various types of standard documents are based on the needs and usages as prescribed by the technical committees of the Society.

proposal—a document that has been approved by the sponsoring committee for publication for information and comment prior to its consideration for adoption as a standard.

Discussion—Complete balloting procedures are not required for proposals.

emergency standard—a document published by the Society to meet a demand for more rapid issuance of a specific standard document.

Discussion—The Executive Subcommittee of the sponsoring committee must recommend the publishing of an emergency standard and the Committee on Standards must concur in the recommendation. Emergency standards are not full consensus documents because they are not submitted to Society ballot.

Types:

The various types of ASTM documents are to provide a flexibility of form, communication, and usage for both the technical committees and the myriad users of ASTM documents. The type of ASTM document that is developed and titled is based on the technical content and intended use, not on the degree of consensus achieved. The three categories of ASTM documents (standard, emergency standard, and proposal) can be of the following forms and types:

classification—a systematic arrangement or division of materials, products, systems, or services into groups based on similar characteristics such as origin, composition, properties, or use.

guide—a series of options or instructions that do not recommend a specific course of action.

Discussion—Whereas a practice prescribes a general usage principle, a guide only suggests an approach. The purpose of a guide is to offer guidance, based on a consensus of viewpoints, but not to establish a fixed procedure. A guide is intended to increase the awareness of the user to available techniques in a given subject area and to provide information from which subsequent evaluation and standardization can be derived.

practice—a definitive procedure for performing one or more specific operations or functions that does not produce a test result. (Compare *test method*.)

Discussion—A practice is not a downgraded test method. Examples of practices include procedures for conducting interlaboratory testing programs or other statistical procedures; for writing statements on sampling or precision and bias; and for selection, preparation, application, inspection, necessary precautions for use or disposal, installation, maintenance, and operation of testing equipment.

specification—a precise statement of a set of requirements to be satisfied by a material, product, system, or service that indicates the procedures for determining whether each of the requirements is satisfied.

Discussion—It is desirable to express the requirements numerically in terms of appropriate units together with their limits.

terminology—a document comprising definitions of terms; descriptions of terms; explanations of symbols, abbreviations, or acronyms.

test method—a definitive procedure for the identification, measurement, and evaluation of one or more qualities, characteristics, or properties of a material, product, system, or service that produces a test result. (Compare *practice*.)

A new edition of the Book of Standards is issued annually. Each volume contains all actions approved by the Society at least six months before the issue date. New and revised standards approved by the Society between the annual appearances of any given volume are made available as separate copies. The 1991 edition of the Book of Standards comprises approximately 53,000 pages and includes over 8600 ASTM standards.

Purpose and Use of ASTM Standards

An ASTM standard represents a common viewpoint of those parties concerned with its provisions, namely, producers, users, consumers, and general interest groups. It is intended to aid industry, government agencies, and the general public. The use of an ASTM standard is purely voluntary. The existence of an ASTM standard does not intend to preclude anyone from manufacturing, marketing, or purchasing products, or using products, processes, or procedures not conforming to the standard. Because ASTM standards are subject to periodic review and revision, those who use them are cautioned to obtain the latest revision.

Consideration of Comments on ASTM Standards

An ASTM standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of any standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 1916 Race St., Philadelphia, PA 19103.

Using the Annual Book of ASTM Standards

The standards are assembled in each volume in alphanumeric sequence of their ASTM designation numbers except for Volumes 11.01, 11.02, and 05.04, which are assembled by subject matter. Volume 06.03 is assembled first by committee, then in alphanumeric sequence. Each volume has a table of contents, listing the standards in alphanumeric sequence by ASTM designation; and a list by subjects, categorizing the standards according to subject. A subject index of the standards in each volume appears at the back of each volume.

Availability of Individual Standards

Each ASTM standard is available as a separate copy from ASTM. Special quantity prices and discounts for members can be obtained from Customer Services. When ordering, provide the ASTM standard designation and year of issue, title, quantity desired, and shipping instructions.

Obsolete Editions

This new edition of the *Annual Book of ASTM Standards* makes last year's edition obsolete. Each volume of the *Annual Book of ASTM Standards* is published annually because of additions of new standards and significant revisions in existing standards. On the average, about 30 % of each volume is new or revised. For practical purposes, therefore, it is not wise to use obsolete volumes. However, for teaching purposes, these outdated volumes might be useful.

Safety Hazard Caveat

In January 1990, the Board of Directors approved revisions to the ASTM Policy on Safety Precautions and modified the language of the generic caveat on Safety Hazards as follows:

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.

Inclusion of the caveat is required in test methods, specifications (where test methods are detailed other than by reference), practices, and guides.

Disclaimer of Liability as to Patents:

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in these standards. Users of these standards are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.



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MAGNETIC PROPERTIES AND MAGNETIC MATERIALS; METALLIC MATERIALS FOR THERMOSTATS AND FOR ELECTRICAL RESISTANCE, HEATING, AND CONTACTS

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- | | |
|-------------------------|--|
| A 893 – 86 [†] | Complex Dielectric Constant of Nonmetallic Magnetic Materials at Microwave Frequencies (formerly F 131 – 86) |
| A 883 – 86 [†] | Ferrimagnetic Resonance Linewidth and Gyromagnetic Ratio of Nonmetallic Magnetic Materials (formerly F 130 – 86) |
| A 894 – 89 | Saturation Magnetization or Induction of Nonmetallic Magnetic Materials (formerly F 133 – 70 (1981)) |

Sintered Powder Materials

Specifications for:

- | | |
|------------|---|
| A 839 – 87 | Phosphorous Iron Fabricated by Powder Metallurgy Techniques |
| A 811 – 90 | Soft Magnetic Iron Fabricated by Powder Metallurgy Techniques |
| A 904 – 90 | 50 Nickel - 50 Iron Powder Metallurgy Soft Magnetic Alloys |

Terminology

Terminology Relating to:

- | | |
|------------|---|
| A 340 – 90 | Magnetic Testing, also Symbols and Conversion Factors for |
|------------|---|

METALLIC MATERIALS FOR THERMOSTATS AND FOR ELECTRICAL RESISTANCE, HEATING, AND CONTACTS

Specifications for:

- | | |
|--------------------------|---|
| B 617 – 83 (1988) | Coin Silver Electrical Contact Alloy |
| B 702 – 88 | Copper-Tungsten Electrical Contact Material |
| B 603 – 90 | Drawn or Rolled Iron-Chromium-Aluminum Alloys for Electrical Heating Elements |
| B 344 – 83 | Drawn or Rolled Nickel-Chromium and Nickel-Chromium-Iron Alloys for Electrical Heating Elements |
| §B 488 – 86 [†] | Electrodeposited Coatings of Gold for Engineering Uses |
| B 679 – 80 | Electrodeposited Coatings of Palladium for Engineering Use |
| B 476 – 90 | General Requirements for Wrought Precious Metal Electrical Contact Materials |
| B 596 – 89 | Gold-Copper Alloy Electrical Contact Material |
| B 541 – 89 | Gold Electrical Contact Alloy |
| B 477 – 87 | Gold-Silver-Nickel Electrical Contact Alloy |

[†] Although this standard has been officially withdrawn from society approval, a brief description is included for information only.

§ Approved for use by agencies of the Department of Defense and, if indicated on the standard, replaces corresponding Federal or Military document.

LIST BY SUBJECTS

Specifications for:

B 522 – 90	Gold-Silver-Platinum Electrical Contact Alloy
B 540 – 86	Palladium Electrical Contact Alloy
B 685 – 90	Palladium-Copper Electrical Contact Material
B 563 – 89	Palladium-Silver-Copper Electrical Contact Alloy
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B 683 – 90	Pure Palladium Electrical Contact Material
B 628 – 83 (1988)	Silver-Copper Eutectic Electrical Contact Alloy
B 742 – 90	Silver, Fine, Electrical Contact Fabricated Material
B 662 – 89	Silver-Molybdenum Electrical Contact Material
B 693 – 87	Silver-Nickel Electrical Contact Materials
B 663 – 89	Silver-Tungsten Carbide Electrical Contact Material
B 631 – 88	Silver-Tungsten Electrical Contact Materials
B 780 – 87	75 % Silver, 24.5 % Copper, 0.5 % Nickel Electrical Contact Alloy
B 664 – 90	80 % Silver-20 % Graphite Sliding Contact Material
B 692 – 90	75 % Silver-25 % Graphite Sliding Contact Material
B 753 – 86	Thermostat Component Alloys
B 388 – 87 ^{€1}	Thermostat Metal Sheet and Strip
B 267 – 90 ^{€1}	Wire for Use in Wire-Wound Resistors

Test Methods for:

B 78 – 90	Accelerated Life Test of Iron-Chromium-Aluminum Alloys for Electrical Heating
B 76 – 90	Accelerated Life Test of Nickel-Chromium and Nickel-Chromium-Iron Alloys for Electrical Heating
B 70 – 90	Change of Resistance with Temperature of Metallic Materials for Electrical Heating
B 794 – 88 ^{€1}	Durability Wear Testing of Separable Electrical Connector Systems Using Electrical Resistance Measurements
B 478 – 85	Cross Curvature of Thermostat Metals
B 106 – 90	Flexivity of Thermostat Metals
B 277 – 89	Hardness of Electrical Contact Materials
B 578 – 87	Microhardness of Electroplated Coatings
B 539 – 90	Measuring Contact Resistance of Electrical Connections (Static Contacts)
B 362 – 81 (1986)	Mechanical Torque Rate of Spiral Coils of Thermostat Metal
B 223 – 85	Modulus of Elasticity of Thermostat Metals (Cantilever Beam Method)
B 735 – 89	Porosity in Gold Coatings on Metal Substrates by Gas Exposures
B 741 – 90	Porosity in Gold Coatings on Metal Substrates by Paper Electrography
B 798 – 90	Porosity in Gold or Palladium Coatings on Metal Substrates by Gel-Bulk Electrography
B 799 – 88	Porosity in Gold and Palladium Coatings by Sulfurous Acid/Vapor
B 326 – 76 (1986)	Resistance Characteristics of Microcontacts
B 812 – 91	Resistance to Environmental Degradation of Electrical Pressure Connections Involving Aluminum and Intended for Residential Applications
§B 193 – 87	Resistivity of Electrical Conductor Materials
B 63 – 90	Resistivity of Metallically Conducting Resistance and Contact Materials
B 340 – 61 (1984)	Surety of Make of Electrical Contact Materials (Discontinued 1991†)
B 84 – 90	Temperature-Resistance Constants of Alloy Wires for Precision Resistors
B 114 – 90	Temperature-Resistance Constants of Sheet Materials for Shunts and Precision Resistors
B 389 – 81 (1986)	Thermal Deflection Rate of Spiral and Helical Coils of Thermostat Metal
B 77 – 81 (1988)	Thermoelectric Power of Electrical-Resistance Alloys

Practices for:

B 667 – 80 (1986)	Construction and Use of a Probe Measuring Electrical Contact Resistance
B 615 – 79 (1990)	Measuring Electrical Contact Noise in Sliding Electrical Contacts

Guides for:

B 576 – 89	Designing an Arc Erosion Test for Electrical Contact Materials
B 772 – 87	Specifying the Chemical Compositions for Electrical Contact Materials (Arcing and Nonarcing)
B 497 – 89	Measuring Voltage Drop on Closed Arcing Contacts
B 613 – 76 (1990)	Preparing Specifications for Miniature Brushes of Composite Materials for Sliding Electric Contacts
B 781 – 87	Silver-Cadmium Oxide Contact Material
B 712 – 82 (1988)	Determination of Sodium and Potassium Content for Silver-Cadmium Oxide Contact Materials
B 773 – 87	Ultrasonic C-Scan Bond Evaluation of Brazed or Welded Electrical Contact Assemblies

Terminology Relating to:

B 542 – 85	Electrical Contacts and Their Use
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METRIC PRACTICE

Standard for:

§E 380 – 89a	<i>Practice for Use of the International System of Units (SI) (the Modernized Metric System) (Excerpts) (see Related Material section)</i>
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1991 ANNUAL BOOK OF ASTM STANDARDS, Volume 03.04

MAGNETIC PROPERTIES AND MAGNETIC MATERIALS; METALLIC MATERIALS FOR THERMOSTATS AND FOR ELECTRICAL RESISTANCE, HEATING, AND CONTACTS

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Listed below are those standards included in this book and those standards that appeared previously that have been discontinued within the past five years. Since the standards in this book are arranged in alphanumeric sequence, no page numbers are given in this contents.

In the serial designations prefixed to the following titles, the number following the dash indicates the year of original issue or, in the case of revision, the year of last revision. Thus, standards adopted or revised during the year 1991 have as their final number, 91. A letter following this number indicates more than one revision during that year, that is, 91a indicates the second revision in 1991, 91b, the third revision, etc. Standards that have been reapproved without change are indicated by the year of last reapproval in parentheses as part of the designation number, for example, (1991). A superscript epsilon indicates an editorial change since the last revision or reapproval— $\epsilon 1$ for the first change, $\epsilon 2$ for the second, etc.

A 34 – 83 (1988) ^{$\epsilon 1$}	Practice for Procurement Testing and Sampling of Magnetic Materials
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A 341 – 89 ^{$\epsilon 1$}	Test Method for Direct-Current Magnetic Properties of Materials Using D-C Permeameters and the Ballistic Test Methods
A 342 – 84 (1988)	Test Methods for Permeability of Feebly Magnetic Materials
A 343 – 82 (1986)	Test Method for Alternating-Current Magnetic Properties of Materials at Power Frequencies Using Wattmeter-Ammeter-Voltmeter Method and 25-cm Epstein Test Frame
A 345 – 90	Specification for Flat-Rolled Electrical Steels for Magnetic Applications
A 346 – 74 (1988)	Test Method for Alternating-Current Magnetic Performance of Laminated Core Specimens Using the Dieterly Bridge Method
A 347 – 85	Test Method for Alternating-Current Magnetic Properties of Materials Using the Dieterly Bridge Method with 25-cm Epstein Frame
A 348 – 84 (1988)	Test Method for Alternating-Current Magnetic Properties of Materials Using the Wattmeter-Ammeter-Voltmeter Method, 100 to 10 000 Hz and 25-cm Epstein Frame
A 596 – 89	Test Method for Direct-Current Magnetic Properties of Materials Using the Ballistic Method and Ring Specimens
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A 683M – 84	Specification for Nonoriented Electrical Steel, Semiprocessed Types (Metric)
A 697 – 74 (1985)	Test Method for Alternating-Current Magnetic Properties of Laminated Core Specimen Using the Voltmeter-Ammeter-Wattmeter Methods
A 698 – 74 (1985) ^{$\epsilon 1$}	Test Method for Magnetic Shield Efficiency in Attenuating Alternating Magnetic Fields
A 712 – 75 (1985)	Test Method for Electrical Resistivity of Soft Magnetic Alloys
A 717 – 81 (1988) ^{$\epsilon 1$}	Test Method for Surface Insulation Resistivity of Single-Strip Specimens
A 718 – 75 (1985)	Test Method for Surface Insulation Resistivity of Multi-Strip Specimens
A 719 – 75 (1990) ^{$\epsilon 1$}	Test Method for Lamination Factor of Magnetic Materials
A 720 – 75 (1985)	Test Method for Ductility of Nonoriented Electrical Sheet Steel
A 721 – 75 (1985)	Test Method for Ductility of Oriented Electrical Sheet Steel
A 725 – 84	Specification for Flat-Rolled, Grain-Oriented, Silicon Iron Electrical Steel, Fully Processed Types 27H076, 30H083, 35H094 (Discontinued 1988—Replaced by A 876.)
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A 753 – 85 (1990) ^{$\epsilon 1$}	Specification for Nickel-Iron Soft Magnetic Alloys
A 772 – 89	Test Method for A-C Magnetic Permeability of Materials Using Sine Current

† Although this standard has been officially withdrawn from society approval, a brief description is included for information only.

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A 801 – 82 (1986)	Specification for Iron-Cobalt High Magnetic Saturation Alloys
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A 839 – 87	Specification for Phosphorous Iron Fabricated by Powder Metallurgy Techniques
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B 78 – 90	Test Method of Accelerated Life of Iron-Chromium-Aluminum Alloys for Electrical Heating
B 84 – 90	Test Method for Temperature-Resistance Constants of Alloy Wires for Precision Resistors
B 106 – 90	Test Methods for Flexivity of Thermostat Metals
B 114 – 90	Test Method for Temperature-Resistance Constants of Sheet Materials for Shunts and Precision Resistors
§B 193 – 87	Test Method for Resistivity of Electrical Conductor Materials
B 223 – 85	Test Method for Modulus of Elasticity of Thermostat Metals (Cantilever Beam Method)
B 267 – 90 ^{e1}	Specification for Wire for Use in Wire-Wound Resistors
B 277 – 89	Test Method for Hardness of Electrical Contact Materials
B 305 – 56 (1978) ^{e1}	Test Method for Maximum Loading Stress at Temperature of Thermostat Metals (Cantilever Beam Method) (Discontinued 1987†)
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B 344 – 83	Specification for Drawn or Rolled Nickel-Chromium and Nickel-Chromium-Iron Alloys for Electrical Heating Elements
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B 541 – 89	Specification for Gold Electrical Contact Alloy
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B 596 – 89	Specification for Gold-Copper Alloy Electrical Contact Material
B 603 – 90	Specification for Drawn or Rolled Iron-Chromium-Aluminum Alloys for Electrical Heating Elements
B 613 – 76 (1990)	Guide for Preparing Specifications for Miniature Brushes of Composite Materials for Sliding Electric Contacts
B 615 – 79 (1990)	Practice for Measuring Electrical Contact Noise in Sliding Electrical Contacts
B 617 – 83 (1988)	Specification for Coin Silver Electrical Contact Alloy

§ Approved for use by agencies of the Department of Defense and, if indicated on the standard, replaces corresponding Federal or Military document.

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B 628 – 83 (1988)	Specification for Silver-Copper Eutectic Electrical Contact Alloy
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B 663 – 89	Specification for Silver-Tungsten Carbide Electrical Contact Material
B 664 – 90	Specification for 80 % Silver-20 % Graphite Sliding Contact Material
B 667 – 80 (1986)	Practice for Construction and Use of a Probe for Measuring Electrical Contact Resistance
B 679 – 80	Specification for Electrodeposited Coatings of Palladium for Engineering Use
B 683 – 90	Specification for Pure Palladium Electrical Contact Material
B 684 – 81 (1987)	Specification for Platinum-Iridium Electrical Contact Material
B 685 – 90	Specification for Palladium-Copper Electrical Contact Material
B 692 – 90	Specification for 75 % Silver-25 % Graphite Sliding Contact Material
B 693 – 87	Specification for Silver-Nickel Electrical Contact Materials
B 702 – 88	Specification for Copper-Tungsten Electrical Contact Material
B 712 – 82 (1988)	Guide for Determination of Sodium and Potassium Content for Silver-Cadmium Oxide Contact Materials
B 731 – 84 [†]	Specification for 60 % Palladium-40 % Silver Electrical Contact Material
B 735 – 89	Test Methods for Porosity in Gold Coatings on Metal Substrates by Nitric Acid Vapor
B 741 – 90	Test Methods for Porosity in Gold Coatings on Metal Substrates by Paper Electrography
B 742 – 90	Specification for Fine Silver Electrical Contact Fabricated Material
B 753 – 86	Specification for Thermostat Component Alloys
B 772 – 87	Guide for Specifying the Chemical Compositions for Electrical Contact Materials (Arcing and Nonarcing)
B 773 – 87	Guide for Ultrasonic C-Scan Bond Evaluation of Brazed or Welded Electrical Contact Assemblies
B 780 – 87	Specification for 75 % Silver, 24.5 % Copper, 0.5 % Nickel Electrical Contact Alloy
B 781 – 87	Guide for Silver-Cadmium Oxide Contact Material
B 794 – 88 [†]	Test Method for Durability Wear Testing of Separable Electrical Connector Systems Using Electrical Resistance Measurements
B 798 – 90	Test Method for Porosity in Gold or Palladium Coatings on Metal Substrates by Gel-Bulk Electrography
B 799 – 88	Test Method for Porosity in Gold and Palladium Coatings by Sulfurous Acid/Vapor
B 812 – 91	Test Method for Resistance to Environmental Degradation of Electrical Pressure Connections Involving Aluminum and Intended for Residential Applications
F 132 – 70 (1981)	Methods of Testing Nonmetallic Magnetic Cores to be Used in a Coincident Current Memory with a Two-to-One Selection Ratio Operating Under Full Switching Conditions (Discontinued 1987†)

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Standard Practice for Procurement Testing, and Sampling of Magnetic Materials¹

This standard is issued under the fixed designation A 34; 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.

^{ε1} NOTE—Sections 3 and 4 were renumbered in December 1988.

1. Scope

1.1 This practice references standard material specifications and standard test methods for flat-rolled electrical steel and other magnetic materials.

1.2 This practice describes sampling procedures and related practices for various properties.

1.3 *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 This standard shall be applicable to the following material specifications and test methods unless specifically modified by the individual standard.

2.1.1 ASTM Standard Material Specifications:

A 345 Specification for Flat-Rolled Electrical Steels for Magnetic Applications²

A 665 Specification for Flat-Rolled, Grain-Oriented, Silicon-Iron, Electrical Steel, Fully Processed Types 23G048, 27G053, 30G058, and 35G066³

A 677 Specification for Nonoriented Electrical Steel, Fully Processed Types²

A 683 Specification for Nonoriented Electrical Steel, Semiprocessed Types²

A 725 Specification for Flat-Rolled, Grain-Oriented, Silicon-Iron, Electrical Steel, Fully Processed Types 27H076, 30H083, 35H094³

A 726 Specification for Cold-Rolled, Carbon Steel Sheet, Magnetic Lamination Quality, Types 1, 2 and 2S²

A 753 Specification for Nickel-Iron Soft Magnetic Alloys²

2.1.2 ASTM Standard Test Methods:

A 341 Test Method for Direct-Current Magnetic Properties of Materials Using D-C Permeameters and the Ballistic Test Methods²

A 342 Test Methods for Permeability of Feebly Magnetic Materials²

A 343 Test Method for Alternating-Current Magnetic Properties of Materials at Power Frequencies Using the Wattmeter-Ammeter-Voltmeter Method and 25-cm Epstein Test Frame²

A 346 Test Method for Alternating-Current Magnetic Performance of Laminated Core Specimens Using the Dieterly Bridge Method²

A 347 Test Method for Alternating-Current Magnetic Properties of Materials Using the Dieterly Bridge Method with 25-cm Epstein Frame²

A 348 Test Method for Alternating-Current Magnetic Properties of Materials Using the Wattmeter-Ammeter-Voltmeter Method 100 to 10 000 Hz and 25-cm Epstein Frame²

A 596 Test Method for Direct-Current Magnetic Properties of Materials Using the Ballistic Method and Ring Specimens²

A 598 Test Method for Magnetic Properties of Magnetic Amplifier Cores²

A 712 Test Method for Electrical Resistivity of Soft Magnetic Alloys²

A 717 Test Method for Surface Insulation Resistivity of Single-Strip Specimens²

A 718 Test Method for Surface Insulation Resistivity of Multi-Strip Specimens²

A 719 Test Method for Lamination Factor of Magnetic Materials²

A 720 Test Method for Ductility of Nonoriented Electrical Sheet Steel²

A 721 Test Method for Ductility of Oriented Electrical Sheet Steel²

A 772 Test Method for A-C Magnetic Permeability of Materials Using Sine Current²

A 773 Test Method for D-C Magnetic Properties of Materials Using Ring and Permeameter Procedures with D-C Electronic Hysteresigraphs²

2.1.3 ASTM Standard Definitions:

A 340 Terminology of Symbols and Definitions Relating to Magnetic Testing²

3. Terminology

3.1 Definitions:

3.1.1 For definitions of terms relating to magnetic testing, reference shall be made to Terminology A 340.

4. Significance and Use

4.1 This practice defines a test lot and describes the selection and preparation of test specimens that are used in

¹ This practice is under the jurisdiction of Committee A-6 on Magnetic Properties and is the direct responsibility of Subcommittee A06.02 on Materials Specifications.

Current edition approved March 25, 1983. Published August 1983. Originally published as A 34 – 11. Last previous edition A 34 – 70 (1976).

² Annual Book of ASTM Standards, Vol 03.04.

³ Discontinued; see 1988 Annual Book of ASTM Standards, Vol 03.04.