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# Important Changes for 2013

All standards under the jurisdiction of Subcommittees E48.02 Characterization and Identification of Biological Systems and E48.03 Unit Processes and Validation, formerly appearing in Volume 11.06 Biological Effects and Environmental Fate; Biotechnology, have been moved to Volume 14.02 General Test Methods; Forensic Psychophysiology; Forensic Sciences; Terminology; Conformity Assessment; Statistical Methods; Nanotechnology; Forensic Engineering; Manufacture of Pharmaceutical Products.

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Volume 01.01
Steel—Piping, Tubing, Fittings
1,038 Pages; 122 Standards; Available Jan. 2013

Volume 01.01 features standards for various types of steel pipe that specify requirements for high-temperature service, ordinary use, and special applications, such as fire protection. It includes specifications on steel tubes for boiler and superheater tubes, general service tubes, still tubes in refinery service, heat exchanger and condenser tubes, mechanical tubing, and structural tubing.

Steel casting specifications address standard properties for valves, flanges, fittings, and other pressure containing parts for high-temperature and low-temperature service. Others cover black, plain end steel pipe for use in the conveyance of fluids under pressure.

Volume 01.02
Ferrous Castings; Ferroalloys
902 Pages; 121 Standards; Available Jan. 2013

Volume 01.02 includes standards that describe the property requirements of steel castings used for general applications, structural purposes, and high-temperature and low-temperature service. It also features alloy-casting specifications for castings made of nickel and chromium alloys.

Other standards detail the property and testing requirements for gray and white iron castings, cast iron pipe and fittings, and ductile iron castings.

This volume also includes standards on radiographic examination of castings to be used with ASTM’s standard reference radiographs.

Volume 01.03
Steel—Plate, Sheet, Strip, Wire; Stainless Steel Bar
784 Pages; 89 Standards; Available Feb. 2013

Under the heading of steel plate, sheet, and strip, this volume covers specifications that stress mechanical property requirements and applications. The majority of them have been adopted by the Department of Defense. Also featured are specifications that detail the properties of assorted types of steel wire and industrial sizing screens.

Volume 01.04
Steel—Structural, Reinforcing, Pressure Vessel, Railway
856 Pages; 128 Standards; Available Jan. 2013

This volume features specifications that fix the requirements for various types of structural steel, such as high-strength, low-alloy, rolled steel floor plates, and carbon-silicon steel plates.

Some standards focus on plates and forgings used in boilers and pressure vessels, while others deal with steel for concrete reinforcement and prestressed concrete. This volume also includes specifications that set the properties for railway service rails and accessories.

Volume 01.05
Steel—Bars, Forgings, Bearing, Chain, Tool
878 Pages; 102 Standards; Available Jan. 2013

Specifications and test methods examine the properties of various steel bars intended for specific or general applications. Standards focus on carbon and alloy steel axles, wrought carbon steel wheels, steel tires, and carbon and alloy steel forgings for railway use.

Volume 01.05 also provides standards for steel forgings and billets in assorted applications, such as pressure vessels, rotors, and general use. The remaining specifications cover steel chain, bearing steels, and tool steels.

Volume 01.06
Coated Steel Products
934 Pages; 131 Standards; Available Feb. 2013

This volume covers aluminum or zinc-coated steel, tin mill products, and coated steel wire. It also includes standards for chain-link, ornamental, and security fences.

Volume 01.07
Ships and Marine Technology
1,904 Pages; 174 Standards; Available Jan. 2013

Volume 01.07 covers standards used in the shipping and marine industries. They include standard requirements for steel furniture, watertight doors, marine coatings, and more.

Volume 01.08
Fasteners; Rolling Element Bearings
1,036 Pages; 99 Standards; Available Jan. 2013

Volume 01.08 contains specifications for various internally and externally threaded fasteners, and non-threaded and driven fasteners.

It also includes standards on rolling element bearings that establish the physical and mechanical properties for bearings to be used in automotive and aerospace applications.
Section 2: Nonferrous Metal Products

Volume 02.01
Copper and Copper Alloys
1,008 Pages; 150 Standards; Available May 2013

Volume 02.01 includes standards on copper and copper alloy plate, sheet, strip, rolled bar, rod bar, and shapes. Some detail the property requirements for seamless and welded tubes for ordinary use, water service, condensers, and special uses. Others cover various types of wire, including hard-drawn copper, copper-silicon alloy, and phosphor bronze.

Volume 02.02
Aluminum and Magnesium Alloys
918 Pages; 88 Standards; Available Sept. 2013

The specifications in this volume cover aluminum, aluminum alloys, and aluminum-covered steel, including bars, rods, wire, shapes, castings, forgings, fasteners, pipes, tubes, sheet, plates, foil, and cable. It also includes ANSI H35.2 American National Standard on Dimensional Tolerances for Aluminum Mill Products.

Other standards fix the property requirements for magnesium-ingot and magnesium-alloy castings, including sheet, forgings, anodes, bars, rods, and shapes; and measure indentation hardness, shear testing, tension testing, and ultrasonic inspection.

Volume 02.03
Electrical Conductors
496 Pages; 85 Standards; Available May 2013

Volume 02.03 focuses on electrical conductors, primarily aluminum, aluminum-alloy, aluminum-covered steel, copper, copper-alloy, copper-covered steel, and steel wire. Various specifications define the required properties for stranded conductors and wire. Others detail the properties of aluminum-clad, copper-clad and core steel wire, as well as guys, messengers, and span wires.

Volume 02.04
Nonferrous Metals—Nickel, Titanium, Lead, Tin, Zinc, Zirconium, Precious, Reactive, Refractory Metals and Alloys; Materials for Thermostats

Volume 02.05
Metallic and Inorganic Coatings; Metal Powders and Metal Powder Products
1,028 Pages; 196 Standards; Available May 2013

Under the heading of metallic and inorganic coatings, specifications establish requirements for electrodedeposited coatings of cadmium, tin, and mechanically-deposited zinc. This volume includes tests for measuring the properties of anodically-coated aluminum; determining coating thickness and corrosion; and electroforming, electroplating, and surface preparation.

Volume 02.05 features standards for metal powders and metal powder products. It includes test methods and specifications that deal with base metal powders, cemented carbides, refractory metal powders, density, flow rate, hardness, and particulate size. This volume also features standards for powder metallurgy (P/M) and metal injection molded (MIM) structural parts.

Volume 02.06
Electrical Heating and Resistance Contacts, and Connectors
1,300 Pages; 261 Standards; Available June 2013

Over half of the standards featured are specifications for nickel and nickel alloys which cover castings, forgings, pipe, tube, plate, sheet, strip, rod, bar, and wire. Also included are specifications for zinc, recycled zinc, zinc alloys, copper, gold, titanium, zirconium, and more.

Procedures for measuring such properties as cross curvature and flexility of thermostat materials and resistance of electrical contacts to atmospheric corrosion also appear in this volume.

Section 2
(Volumes 02.01–02.05)
4,750 Pages; 780 Standards
Volume 03.01
Metals—Mechanical Testing; Elevated and Low-Temperature Tests; Metallography
1,686 Pages; 131 Standards; Available July 2013
Volume 03.01 covers tests and practices that outline the standard procedures needed to perform mechanical testing. This includes machine calibration, bend and flexure testing, compression, ductility, formability, impact, linear thermal expansion, shear, torsion, residual stress, tension testing, structural films for MEMS, and electronic applications.

Other standards cover fatigue and fracture testing of materials, including crack tip opening displacement (CTOD), fracture toughness measurement, and linear elastic plane-strain fracture toughness of metallic materials.

Also featured are metallography tests and practices that define standard optical, electron, and X-ray procedures for determining the constituents and structure of metals and alloys.

Volume 03.02
Corrosion of Metals; Wear and Erosion
1,008 Pages; 115 Standards; Available Aug. 2013
Tests, practices, and guides detail standard procedures to measure atmospheric corrosion, stress corrosion cracking, corrosion fatigue, corrosion in natural waters and soil, and in-plant corrosion. This volume includes a joint ASTM/NACE terminology standard, as well as tests and practices on how to assess wear and erosion of materials and structures.

Volume 03.03
Nondestructive Testing
1,684 Pages; 200 Standards; Available Oct. 2013
Provides the latest standards on nondestructive testing of engineering materials, structures, and assemblies to detect flaws and characterize the properties of materials.

NDT methods cover:

Reference Radiological Images—reference radiograph standards, when accompanied by ASTM’s standard radiograph plates, are used to illustrate the type and degree of discontinuities that may be found in castings and welds. Others detail the procedures required for proper radiographic examination.

Radiology (Neutron, X, and Gamma)—test methods and practices cover topics such as calibration and measurement of CT density, radioscopic examination of weldments, and quality control of industrial radiographic film processing.

Digital Imaging—practices and guides cover digital imaging and communication in nondestructive evaluation (DICONDE), including computerized transfer of digital radiological and ultrasonic examination data.

Magnetic Particle and Liquid Penetrant Examination—test methods, practices, and reference photographs examine minimum requirements and various techniques.

Acoustic Emission—standard procedures for operating acoustic emission sensors and monitoring structures.

Ultrasonic—practices for performing ultrasonic examination of tubing, weldments, and other materials.

Electromagnetic—procedures for electromagnetic (eddy current) examination of ferrous and nonferrous metals, and in particular, various tubular products.

Leak Testing—practices and tests establish procedures for leak testing of open and sealed units.

Other standards in this volume cover infrared methods, nondestructive testing agencies, metals sorting, and identification.

Volume 03.04
Magnetic Properties
344 Pages; 49 Standards; Available April 2013
Under the heading of magnetic properties and materials, this volume contains standards on property requirements and measurement techniques for magnetic materials, primarily electrical steel. It includes tests for determining alternating current and direct current properties.

Volume 03.05
Analytical Chemistry for Metals, Ores, and Related Materials: E32–Latest
1,124 Pages; 132 Standards; Available Oct. 2013
Volume 03.05 includes procedures for obtaining and reporting chemical analyses of ferrous and nonferrous metals, metal-bearing ores, and refractories. Standards also cover analytical equipment, practices for conducting proficiency tests, and reporting statistical test results.

Volume 03.06
Molecular Spectroscopy; Surface Analysis
878 Pages; 94 Standards; Available Oct. 2013
This volume covers molecular spectroscopy and includes standards pertaining to chromatography, fiber optics and waveguides, infrared spectroscopy, molecular luminescence, and ultra-violet and visible spectroscopy.

It also includes procedures for surface analysis and examines auger electron spectroscopy, X-ray photoelectron spectroscopy, ion beam sputtering, and secondary ion mass spectroscopy (SIMS).

Section 3
(Volumes 03.01—03.06)
6,724 Pages; 721 Standards
Section 4: Construction

Volume 04.01 Cement; Lime; Gypsum
796 Pages; 136 Standards; Available Sept. 2013
Volume 04.01 features specifications and test methods that establish the property requirements and measurement procedures for hydraulic cements, including portland, natural, pozzolanic, masonry, rapid hardening, and slag. It includes standards that define the appropriate qualities of lime and limestone and how to analyze them for environmental and industrial uses. The remaining standards address gypsum and related building materials and systems, including application procedures and related accessories, including exterior insulation and finishing systems (EIFS).

ASTM's Manual of Cement Testing, a valuable companion to these standards, also appears in this volume.

Volume 04.02 Concrete and Aggregates
1,068 Pages; 178 Standards; Available Oct. 2013
This volume includes test methods, specifications, and practices on concrete and concrete aggregates, curing materials, grout, and expansion joint fillers. These standards address abrasion testing, fluid penetration, chemical admixtures and reactions, concrete for radiation shielding, evaluation of data and laboratories, petrography, self-consolidating concrete, pervious concrete, and more. It also includes the ASTM Manual of Aggregate and Concrete Testing.

Volume 04.03 Road and Paving Materials; Vehicle-Pavement Systems
1,734 Pages; 278 Standards; Available June 2013
Specifications, tests, and practices examine the properties of various road and paving materials and explain how to measure their characteristics. They cover aggregates, bituminous mixtures, bridges, and structures; as well as highway traffic materials, such as retroreflective sheeting and pavement markers. It also includes standards on vehicle-pavement systems, including field methods for measurement of tire pavement friction, measurement and control of roughness in construction and rehabilitation of pavements, surface characteristics related to tire pavement slip resistance, and tire characteristics.

Volume 04.04 Roofing and Waterproofing
808 Pages; 180 Standards; Available June 2013
Specifications, tests methods, and practices focus on roofing and waterproofing materials such as asphalt roof coatings, single-ply membranes, underlayments, roll, sheeting, and EPDM roofing materials. Standards also cover bituminous emulsions; felts and fabrics; nonbituminous organic roof coverings; prepared roofings, shingles, and siding materials; roofing membrane systems; solvent-bearing bituminous compounds; surfacing and bituminous materials for membrane waterproofing; and more.

Volume 04.05 Chemical-Resistant Nonmetallic Materials; Vitrified Clay Pipe; Concrete Pipe; Fiber-Reinforced Cement Products; Mortars and Grouts; Masonry; Precast Concrete
1,502 Pages; 279 Standards; Available June 2013
Under the heading of chemical-resistant nonmetallic materials, this volume provides specifications, tests, and practices for measuring the properties of mortars, grouts, and monolithic surfacing. Also included are standards on mortar and grout for masonry construction and manufactured masonry units. Volume 04.05 also features specifications for concrete pipe, joints, manholes, vitrified clay pipe, clay drain tile, fiber-cement products, and precast concrete products.

Volume 04.06 Thermal Insulation; Building and Environmental Acoustics
1,462 Pages; 192 Standards; Available Nov. 2013
Specifications, tests, and practices detail the property requirements for caulkings and glazing compounds; structural, emulsion, hot-applied, and solvent-release sealants; lock-strip gaskets; aerosol foam sealants; pipe gaskets; sealing tapes; and other building sealants. Also featured are standards on how to measure sealant properties. It includes test methods on the combustibility and fire resistance of various materials, including building construction materials, mattresses, and upholstered furniture. Other standards cover fire safety engineering and large-scale fire tests under controlled conditions. Volume 04.07 also includes standards on dimension stone, including dimension stone anchoring systems and selection of dimension stone for use.

Volume 04.07 Building Seals and Sealants; Fire Standards; Dimension Stone
1,630 Pages; 191 Standards; Available Nov. 2013
Specifications, tests, and practices detail the property requirements for various types of insulation, including blanket, block, board, loose fill, and pipe. Standards on environmental acoustics address community noise, acoustical materials and systems, mechanical and electrical system noise, open plan spaces, sound absorption, and sound transmission.

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News feeds (or RSS feeds) enable you to get content from your favorite websites by only visiting one website. ASTM’s news feeds automatically alert you to new ASTM standards, work items, books, or journal papers that you have interest in. Click on the RSS icon at www.astm.org, choose the items you want to be notified about, and then choose the committee(s) or subject area(s) you’re interested in.
A news reader is needed to aggregate the information from ASTM and your other favorite websites. Many are free. Some of the more common news readers are: Bloglines, Feed Demon, Google Reader, News Gator, RSS Bandit, and SharpReader.
Volume 04.08
Soil and Rock (I): D420–D5876
1,628 Pages; 215 Standards
Available March 2013

Volume 04.09
Soil and Rock (II): D5877–Latest
1,734 Pages; 181 Standards
Available April 2013

Volumes 04.08 and 04.09 feature geotechnical and geoenvironmental standards that cover soil testing. Topics include compaction, sampling, field investigation, soil texture, plasticity, density characteristics, hydrological properties, hydraulic barriers, and rock for erosion control. Other standards focus on ground water and vadose zone investigations, and how to measure the properties of soil-cement.

In addition, Volume 04.09 includes standards on surface and subsurface characterization, erosion and sediment control technology, frozen soils and rock, geotechnics of waste management, and information retrieval and data automation.

Volume 04.10
Wood
876 Pages; 93 Standards
Available July 2013

Test methods feature how to perform chemical analysis of wood and how to evaluate mechanical and physical properties. Others detail structural grading, wood paving blocks, and modified wood.

Volume 04.11
Building Constructions (I): E72–E2110
1,550 Pages; 164 Standards
Available Nov. 2013

Volume 04.12
Building Constructions (II): E2112–Latest; Sustainability; Property Management Systems; Technology and Underground Utilities
1,712 Pages; 161 Standards
Available Nov. 2013

Volumes 04.11 and 04.12 cover standards for measuring the performance of buildings, including: air leakage and ventilation; building economics; building preservation; durability of building constructions; structural performance; exterior insulation and finish systems; lead hazards; and roof systems, windows, and doors.

Volume 04.12 includes standards on sustainability, including the design, construction, and operation of green buildings and environmental life cycle assessment.

It provides standards for designing and implementing efficient and cost-effective personal property and equipment management systems. These standards encompass the entire life cycle of personal property and establish the guiding principles of property management, including administrative control of property, physical inventory, and the assessment of loss, damage, and destruction. In addition, the equipment management maturity model provides an excellent measure of the success and value of a system.

Volume 04.12 also covers standards on technology and underground utilities that cover rehabilitation of sewers using chemical grouting techniques, seismic fragility of water conveyance systems, deployment of optical fiber systems in natural gas pipelines, and water line rehabilitation.

Volume 04.13
Geosynthetics
736 Pages; 140 Standards
Available May 2013

Volume 04.13 focuses on the mechanical, endurance, permeability, and filtration properties of geosynthetics. Applications such as roadway stabilization and repair, erosion control, geomembranes, soil drainage, and reinforcement, as well as hydraulic barriers composed primarily of man-made polymer sheets or spray applied systems are included. Also featured are standards on geosynthetic clay liners.

Section 4
(Volumes 04.01–04.13)
17,436 Pages; 2,388 Standards

Volume 04.14
Utilities
1,943 Pages; 230 Standards
Available Sept. 2013

These 4 volumes provide over 750 standards that cover fuels, oils, lubricants, and solvents. They address alternative diesel fuels and diesel fuel blend components, including biodiesel, ethanol, and ethanol blends. They also feature standards for evaluating the properties of motor, diesel, automotive spark-ignition engine fuel, ethanol, aviation fuels, solvent hexane, and naphtha.

Standards cover distillate and residual fuel oil, kerosine, and illuminating oils, and set down procedures for evaluating such properties as carbon residue, viscosity, cloud point, density, flash point, and sulfur content. Other subjects include natural and liquefied petroleum, pure light hydrocarbons, crude petroleum, wax and petrolatum, and hydraulic fluids.

Also includes standards for evaluating the properties of film lubricants, lubricating greases, lubricating oil, used oils, cutting oils, turbine oils, and engine tests (octane and cetane numbers).
Volume 05.04 features new ASTM D7794, the first standard to identify the protocols necessary to blend mid-level ethanol fuels at the terminal and retail level that equal the fuel quality and performance expected from fuels meeting other ASTM fuel specifications.

Volume 05.05
Combustion Characteristics; Manufactured Carbon and Graphite Products; Catalysts
670 Pages; 79 Standards; Available Feb. 2013

Volume 05.05 covers test methods to determine the knocking or detonation characteristics of motor and aviation fuels and the ignition characteristics of diesel fuels. It includes tests that evaluate catalytic materials, as well as standards for performing chemical and physical tests on manufactured carbon and graphite products.

Volume 05.06
Gaseous Fuels; Coal and Coke
886 Pages; 124 Standards; Available Sept. 2013
Print or CD: $210

Under the heading of gaseous fuels, this volume provides tables and practices for sampling and calculating thermophysical properties. In addition, several tests define methods for analyzing the properties of gaseous fuels. Other tests and practices evaluate properties of coal and coke.

Section 6:
Paints, Related Coatings, and Aromatics

Volume 06.01
Paint—Tests for Chemical, Physical, and Optical Properties; Appearance
1,524 Pages; 260 Standards; Available Feb. 2013

This volume features the latest test methods for the chemical analysis of paints and paint materials, including determination of volatiles, nonvolatiles, pigments, water content, and other constituents. Other standards focus on accelerated testing, physical properties of applied paint films, such as film thickness and adherence, physical strength, resistance to chemicals and environmental factors, as well as the physical and optical properties of liquid paints.

In addition, Volume 06.01 includes tests and practices on color and appearance analysis, color order systems, fluorescence, high visibility materials for individual safety, image based color measurement, photoluminescent safety markings, retroreflective materials, spectrophotometry and colorimetry, and visual methods.

Volume 06.02
Paint—Products and Applications; Protective Coatings; Pipeline Coatings
1,312 Pages; 263 Standards; Available Feb. 2013

Volume 06.02 covers architectural finishes and paint products, such as traffic coatings, marine coatings, industrial protective coatings, and masonry treatments. Standards examine paint applications in factories, coil coal metal, coatings on preformed products, printing inks, artists’ paints, and paint application tools. Other subject areas include the determination of graffiti resistance and definitions for problems that develop with printed matter as a result of deficiencies in ink, substrate, or press.

Tests for applying and evaluating protective coatings and linings in power generation facilities, and standards on the durability of pipeline coatings and linings also appear in this volume.

Volume 06.03
Paint—Pigments, Drying Oils, Polymers, Resins, Naval Stores, Cellulosic Esters, and Ink Vehicles
682 Pages; 141 Standards; Available March 2013

Volume 06.03 includes specifications and test methods that establish property requirements for various pigments, including white, black, bronze, blue, and red; drying oils; resins; and polymers. Other standards pertain to naval stores, primarily rosins, cellulose and cellulose derivatives, and ink vehicles, and hydrocarbon resins.

Volume 06.04
Paint—Solvents; Aromatic Hydrocarbons
754 Pages; 164 Standards; Available March 2013

This volume features specifications that establish the standard property requirements for various solvents, including aromatic hydrocarbons, alcohols, ketones, and esters. Accompanying the specifications are tests that define standard procedures for conducting physical and chemical tests on solvents and for determining solubility and miscibility. Others cover aromatic hydrocarbons and related chemicals, excluding those used as fuels or lubricants.

Section 6
(Volumes 06.01–06.04)
4,242 Pages; 828 Standards
Section 7: Textiles

Volume 07.01
Textiles (I): D76–D4391
1,168 Pages; 180 Standards; Available Nov. 2013

Volume 07.02
Textiles (II): D4393–Latest
1,064 Pages; 153 Standards; Available Nov. 2013

Volumes 07.01 and 07.02 feature over 335 textile-related standards covering the characteristics, properties, nomenclature, and uses of textiles. These tests, practices, and specifications cover:
- Apparel and fabric
- Care labeling
- Chemical conditioning and performance
- Cotton, yarn, fibers, wool, and felt
- Flammability and flame-resistance
- Glass fiber
- Home furnishings
- Inflatable restraints
- Non-woven fabric
- Pile floor coverings
- Subassemblies, such as zippers, hooks, and loops
- Tire cord and fabrics

Volume 07.02 also contains standard body measurement charts used for the sizing of apparel for men, women, children, and infants; standard guidelines for care labeling of apparel and other textile products; standards for UV protective fabrics and clothing; and a practice for stitches and seams, which has replaced the Federal standard for apparel end item stitch and seam structures used worldwide by government and industry textile organizations.

Section 8: Plastics

Volume 08.01
Plastics (I): D256–D3159
938 Pages; 133 Standards; Available June 2013

Volume 08.02
Plastics (II): D3222–D5083
904 Pages; 134 Standards; Available June 2013

Volume 08.03
Plastics (III): D5117–Latest;
Reinforced Plastic Piping Systems and Chemical Equipment; Plastic Building Products
1,458 Pages; 212 Standards; Available July 2013

These 3 volumes feature over 475 plastics-related standards, including test methods that establish standard procedures for assessing physical, mechanical, optical, permanence, and thermal properties.

Volume 08.03 also covers:
- Plastic Building Products—standards deal with plastic siding products, glass-fiber-reinforced polyester plastic panels, and PVC building products.
- Reinforced Plastic Piping Systems and Chemical Equipment—covers testing requirements for glass-fiber-reinforced thermosetting resin pipes, fittings, and joints; and establish chemical resistance of thermosetting resins.

Volume 08.04
Plastic Piping Systems
1,660 Pages; 225 Standards; Available Jan. 2013

Specifications, practices, and test methods for plastic piping systems deal with composites, DWV, fittings, gas pipe, joining, land drainage, sewer pipes, trenchless technology, vinyl-based pipe, and irrigation systems.

Section 8
(Volumes 08.01–08.04)
4,960 Pages; 704 Standards
Section 9: Rubber

Volume 09.01
Rubber, Natural and Synthetic—General Test Methods; Carbon Black
1,298 Pages; 208 Standards; Available July 2013

Volume 09.02
Rubber Products, Industrial—Specifications and Related Test Methods; Gaskets; Tires
774 Pages; 123 Standards; Available Aug. 2013

Volume 09.01 contains tests and practices for evaluating rubber, rubber-like materials, and carbon black. Some general tests and practices fix standard procedures for performing chemical analysis, assessing processability, physical properties, aging and weathering effects, low temperature effects, and adhesion. Others evaluate compounding materials, carbon black, and synthetic rubbers, such as CR, IIR, IR, NBR, BR, and SBR. This volume also details standards on natural rubber, thermoplastic elastomers, and terminology.

Volume 09.02 features specifications, tests, and practices for evaluating rubber surgical and examination gloves, automotive and aeronautical rubber, packing, seals, gasket materials, hose and belting, coated fabrics, latex foam, sponge, expanded cellular rubber, and tires.

It also provides standards on gaskets used in transportation applications, as well as standards related to commercial nonmetallic gaskets, enveloped gaskets, and laminate composite gasket materials (LCGM) for use with corrosion-resistant process equipment.

Section 9
(Volumes 09.01—09.02)
2,072 Pages; 331 Standards

Section 10: Electrical Insulation and Electronics

Volume 10.01
Electrical Insulation (I): D69—D2484
622 Pages; 69 Standards; Available May 2013

Volume 10.02
Electrical Insulation (II): D2518—Latest
700 Pages; 100 Standards; Available May 2013

Volumes 10.01 and 10.02 cover:
- Ceramic and mica products
- Composite and textile materials
- Flexible sheet, tape, and tubing
- Plates, rods, and molded materials
- Electric heating unit insulation and electrical tests
- Hook-up and magnet wire insulation
- Insulating papers and film board
- Battery separator materials
- Insulated wire and cable
- Solid filling, treating, encapsulating, and embedding compounds

Volume 10.03
Electrical Insulating Liquids and Gases; Electrical Protective Equipment
644 Pages; 101 Standards; Available May 2013

Volume 10.03 provides guides, practices, specifications on electrical insulating liquids and gases, as well as chemical, physical, analytical, and electrical test methods. It also includes specifications and tests on tools, equipment, wearing apparel, and materials used to protect workers from electrical hazards.

Volume 10.04
Electronics; Declarable Substances in Materials; 3D Imaging Systems; Additive Manufacturing Technologies
772 Pages; 120 Standards; Available April 2013

Volume 10.04 covers standards on electronics, including:
- Innerlayer interconnections and bonding
- Materials and processes for vacuum tubes
- Electronic device characterization
- Hermetic seals
- Hybrid circuits and substrates
- Microelectronic packaging
- Leak testing
- And more

This volume also includes the latest standards relating to:
- Declarable substances in materials
- 3D imaging systems
- Additive manufacturing technologies

Section 10
(Volumes 10.01—10.04)
2,738 Pages, 390 Standards
Section 11: Water and Environmental Technology

Volume 11.01
Water (I)
1,318 Pages; 202 Standards; Available April 2013

Volume 11.02
Water (II)
1,552 Pages; 200 Standards; Available May 2013

Volume 11.03
Occupational Health and Safety; Protective Clothing
692 Pages; 83 Standards; Available Oct. 2013

Volume 11.04
Waste Management
960 Pages; 113 Standards; Available Sept. 2013

Volume 11.05
Pesticides, Antimicrobials, and Alternative Control Agents; Environmental Assessment; Hazardous Substances and Oil Spill Response
1,780 Pages; 193 Standards; Available Aug. 2013

Volume 11.06
Biological Effects and Environmental Fate; Biotechnology
1,516 Pages; 103 Standards; Available Aug. 2013

Volume 11.07
Air Quality
1,610 Pages; 163 Standards; Available Oct. 2013

Note: All standards under the jurisdiction of Subcommittees E48.02 and E48.03, formerly appearing in Volume 11.06, have been moved to Volume 14.02. See page 34

Sectoion 11 (Volumes 11.01–11.07)
9,428 Pages; 1,057 Standards
Section 12: Nuclear, Solar, and Geothermal Energy

Volume 12.01
Nuclear Energy (I)
1,454 Pages; 179 Standards; Available Aug. 2013

Volume 12.02
Nuclear (II), Solar, and Geothermal Energy; Radiation Processing
1,376 Pages; 155 Standards; Available Sept. 2013

These two volumes feature over 330 standards. Volume 12.01 focuses on materials for nuclear reactor applications and covers:

- **Fuel and Fertile Materials**—property requirements for fuel and other related subjects.
- **Nuclear Grade Materials**—standard procedures for chemical, mass spectrometric, spectrochemical, nuclear, and radiochemical analysis of these materials.

Volume 12.02 covers:

- **Nuclear Technology and Applications**—standards address behavior and use of nuclear structural materials, nuclear radiation metrology, and decontamination and decommissioning of nuclear facilities and components.
- **Radiation Processing**—covers radiation processing for dosimetry systems, food irradiation, and sterilization for medical devices and packaging.
- **Solar Energy**—covers solar heating and cooling systems, measuring spectral response of photovoltaic cells or transmittance, and reflectance of sheet materials.
- **Geothermal Energy**—examines geothermal field development, materials, and utilization.

Section 13: Medical Devices and Services

Volume 13.01
Medical and Surgical Materials and Devices (I):
E667– F2477
1,360 Pages; 226 Standards; Available Sept. 2013

Volume 13.02
Medical and Surgical Materials and Devices (II): F2502-
Latest; Emergency Medical Services; Search and Rescue;
Anesthetic and Respiratory Equipment
1,282 Pages; 156 Standards; Available Sept. 2013

Volumes 13.01 and 13.02 include 380 standards on medical and surgical materials and devices. They cover metals, polymers, and ceramics for implants, prostheses, and surgical devices; silicone elastomers, gels, and foams in medical applications; and tissue engineered medical products. Each standard typically covers manufacture, chemical requirements, mechanical requirements, special tests, and certification.

Topics in Volume 13.02 also include:

- **Emergency Medical Services**—covers emergency medical dispatch, ambulances, fixed wing basic and specialized units, and basic training for emergency medical technicians.
- **Search and Rescue**—addresses search, rescue, and recovery operations, including the testing and maintenance of equipment, management and operations, and personnel training.
- **Anesthetic and Respiratory Equipment**—specifications cover anesthesia machines and monitors, laryngoscopes, bronchoscopes, ventilators, and associated equipment.

Section 13
(Volumes 13.01–13.02)
2,642 Pages; 382 Standards

Section 14: General Methods and Instrumentation

Volume 14.01
Healthcare Informatics
770 Pages; 33 Standards; Available June 2013

Volume 14.01 includes specifications and guides that address the Continuity of Care Record (CCR), transcription, documentation, transfer, management, security, and privacy of health information and the content of electronic health records. Other standards cover controlled health vocabularies for healthcare informatics and eXtensible Markup Language (XML) Document Type Definitions (DTD).
Over 250 standards cover:

**Forensic Psychophysiology**—guides and practices address polygraph training and recommended practices for the design, conduct, and interpretation of psychophysiological detection of deception examinations.

**Forensic Sciences**—the majority of standards in this section deal with criminalistics and questioned documents, including forensic analysis, examination of physical evidence, documenting, labeling, storing, and retrieving evidence.

**Conformity Assessment**—criteria for the evaluation of testing laboratories and proficiency testing by interlaboratory comparisons.

**Hazard Potential of Chemicals**—covers flash point, thermal stability and instability, explosibility, and autoignition temperatures of chemicals.

**Particle and Spray Characterization**—standards cover sieving and nonsieving methods and screening media.

**Quality and Statistics**—practices and guides evaluate statistical methods, sampling and data analysis, and quality statements.

**Thermal Measurements**—practices and test methods cover thermal analysis and thermophysical properties.

**Nanotechnology**—standards cover terminology, environmental and occupational health and safety, and characterization, including physical, chemical, and toxicological properties.

**Forensic Engineering**—addresses the scientific, engineering, ethical, and legal considerations inherent in forensic engineering investigations, reporting, and testimony.

**Manufacture of Pharmaceutical Products**—covers the application of process analytical technology (PAT) within the pharmaceutical industry, highlighting PAT system management, implementation, and practices. New to this edition are standards on hazardous biological materials, characterization and identification of biological systems, and unit processes and validation.

**Volume 14.03**

**Temperature Measurement**

730 Pages; 42 Standards; Available July 2013

Specifications, guides, and test methods cover liquid-in-glass, thermometers and hydrometers, thermocouples, medical thermometry, radiation thermometry, and resistance thermometers.

**Volume 14.04**

**Laboratory Apparatus; Degradation of Materials; SI; Oxygen Fire Safety**

934 Pages; 132 Standards; Available July 2013

Standards cover:

**Laboratory Apparatus**—specifications for sampling and testing of laboratory glassware, calibration of laboratory apparatus, weighing devices, and much more.

**Degradation of Materials**—standards that evaluate outdoor and laboratory accelerated weathering tests and cover biological deterioration, joint weathering projects, natural and environmental exposure tests, and service life prediction.


**Oxygen Fire Safety**—standards for controlling hazards and risks in oxygen systems.

**Section 14**

(Volumes 14.01–14.04)

4,250 Pages; 465 Standards
Volume 15.04
Soaps and Other Detergents; Polishes; Leather; Resilient Floor Coverings
970 Pages; 261 Standards; Available Sept. 2013

Volume 15.04 includes the latest standards for:

Soaps and Other Detergents—establishes the chemical requirements for assorted soaps, alkaline detergents, and synthetic detergents.

Polishes—standards evaluate properties such as acid number, black marking resistance, saponification number of waxes, powdering, and soil resistance.

Leather—standards address tear strength, bursting strength, tensile strength, and water absorption and resistance.

Resilient Floor Coverings—specifications and test methods for floor preparation, installation, and measuring the properties of floor coverings.

Volume 15.05
Engine Coolants; Halogenated Organic Solvents and Fire Extinguishing Agents; Industrial and Specialty Chemicals
970 Pages; 261 Standards; Available Aug. 2013

This volume features the latest standards on:

Engine Coolants—standards cover the chemical and physical properties of engine coolants, dynamometer and road tests, glassware performance tests, and heavy-duty coolants. This section also includes specifications on glycol base engine coolants, recycled engine coolants, reference test materials, and simulated service tests.

Halogenated Organic Solvents and Fire Extinguishing Agents—standards cover virgin and reclaimed halogenated solvents and substitutes for ozone depleting chemicals, as well as the handling, transportation, and storage of compressed gases.

Industrial and Specialty Chemicals—test methods focus on the analysis and testing of single elements, compounds, or simple mixtures in various stages of purity for consumption, primarily by the chemical industry.

Volume 15.06
Adhesives
684 Pages; 134 Standards; Available Aug. 2013

These standards concentrate on the adhesive material classification system, adhesives for plastics and construction, hot melt pressure sensitive adhesives, metal bonding adhesives, wood adhesives, and the working properties and durability of adhesives.

Volume 15.07
Sports Equipment and Facilities; Pedestrian/Walkway Safety and Footwear; Amusement Rides and Devices; Snow Skiing
1,164 Pages; 210 Standards; Available Nov. 2013

Volume 15.07 covers:

Sports Equipment and Facilities—standards cover headgear and helmets, eye protectors, paintball, and playground surfacing. These include baseball helmet and bicycle helmet tests not found in ANSI or SNELL standards.

Pedestrian/Walkway Safety and Footwear—tests, practices, and guides measure slip resistance of footwear on various walking surfaces.

Amusement Rides and Devices—guides and practices on the design, manufacture, inspection, and maintenance of amusement rides and devices.

Snow Skiing—these standards play a preeminent role in all aspects of the snow skiing industry. They cover binding test procedures, Alpine skis, snowboarding, and retail and rental shop procedures.

Volume 15.08
Sensory Evaluation; Vacuum Cleaners; Security Systems and Equipment; Detention and Correctional Facilities; Homeland Security Applications
1,324 Pages; 137 Standards; Available Nov. 2013

This volume highlights:

Homeland Security Applications—standards address CBRNE sensors and detectors, emergency preparedness, training procedures, decontamination, personal protective equipment, building and infrastructure protection, security controls, operational equipment, and terminology.

Sensory Evaluation—tests and guides establish standard procedures for controlling and evaluating the characteristics of products, including food, beverages, personal care products, and household items. Standards also cover general sensory applications and sensory theory and statistics.

Vacuum Cleaners—tests evaluate filtration efficiency, air performance characteristics, cleanliness, durability, and reliability.

Security Systems and Equipment—standards focus on protective design of buildings, including blast and forced entry resistant glazing, blast resistant doors, vehicle crash testing of perimeter barriers, and boat barrier perimeters. Test methods and practices also cover controlled access security screening equipment, as well as locking devices.

Detention and Correctional Facilities—covers security control systems and detention hardware, including hinges and locks, furnishings, and physical barriers, including swinging door assemblies and chain link barrier systems.

Volume 15.09
Paper; Business Imaging Products
468 Pages; 99 Standards; Available June 2013

Volume 15.09 covers:

Paper—specifications establish standard property requirements for paper and paper products. Also includes tests for measuring bursting strength, folding endurance, moisture content, and tear resistance of paperboard and packaging material.

Business Imaging Products—test methods and practices cover carbonless, thermal, electrostatic, ink jet, and inked transfer imaging products.
Volume 15.10
Packaging; Flexible Barrier Packaging
1,212 Pages; 202 Standards; Available June 2013
Includes over 200 standards on:
Packaging—child resistant packaging and closure systems; consumer, pharmaceutical, and medical packaging; fragility assessment; tape and labels; instrumentation; interior packaging; intermodal and unimodal cargo loading; shipping containers; and more.
Flexible Barrier Packaging—food, consumer, and medical device packaging.

Volume 15.11
Consumer Products; Light Sport Aircraft; Unmanned Aircraft Systems; Normal and Utility Category Airplane Electrical Wiring Systems; Unmanned Maritime Vehicle Systems (UMVS); Language Services and Products
1,478 Pages; 158 Standards; Available Nov. 2013
These standards address:
Consumer Products—consumer safety specifications, guides, and performance requirements cover products such as public and home playground equipment, juvenile products, toys, furniture, candles, and pool safety.
Light Sport Aircraft—design, performance, quality acceptance tests, and safety monitoring for light sport aircraft (LSA) and their components. LSA include airplanes, sailplane, weight shift control, lighter-than-air, gyroplane, and powered parachutes. Also provides documentation in the form of checklists and audit guidance for compliance with the standards and regulations.

Unmanned Aircraft Systems—deals with airframe design and performance, operational and software issues, and pilot/crew qualification for small and large UAS. Also covers sense and avoid system performance guidance.
Normal and Utility Category Airplane Electrical Wiring Systems—inspection, maintenance, repair, and alteration of electrical wiring systems in general aviation aircraft.
Unmanned Maritime Vehicle Systems (UMVS)—issues related to UMVS to facilitate an interoperable, modular, and multi-functional family of platforms.
Language Services and Products—language interpreting, foreign language instruction, language translation, and language testing.

Volume 15.12
Livestock, Meat, and Poultry Evaluation Systems; Food Service Equipment
838 Pages; 95 Standards; Available Nov. 2013
Volume 15.12 includes standards on:
Livestock, Meat, and Poultry Evaluation Systems—equipment design, measurement, device performance, user requirements, and predictive accuracy for electronic devices that evaluate composition or quality constituents of livestock, meat, and poultry.
Food Service Equipment—requirements for commercial and institutional food service equipment, including cooking and warming, energy protocol, cleaning, and sanitation.

Section 15
(Volumes 15.01–15.12)
12,186 Pages; 1,923 Standards

Section 00: Subject Index; Alphanumeric List

Volume 00.01
SUBJECT INDEX; ALPHANUMERIC LIST
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