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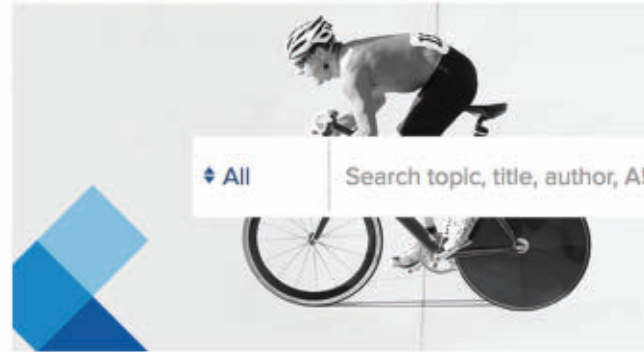
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Highlights in this issue:



20 2019 Book
of Standards



Smart and
Sustainable
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Special Issue



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14 Training &
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33 Proficiency
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In this issue

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Important changes to the 2019 Annual Book of ASTM Standards

These changes may impact your 2019 order:

- All standards from Committees E18 on Sensory Evaluation have moved from Volume 15.08 to Volume 14.03, Sensory Evaluation; Temperature Measurement; Language Services and Products
- All standards from Committee F43 on Languages Services and Products have moved from Volume 15.11 to Volume 14.03, Sensory Evaluation; Temperature Measurement; Language Services and Products
- All standards from Committee F05 on Business Imaging Products have moved from Volume 15.09 to Volume 15.11, Consumer Products; Business Imaging Products; Vacuum Cleaners
- All standards from Committee F11 on Vacuum Cleaners have moved from Volume 15.08 to Volume 15.11, Consumer Products; Business Imaging Products; Vacuum Cleaners
- Volume 15.09, Light Sport Aircraft; Unmanned Aircraft Systems; Aircraft Systems; Aerospace Personnel; General Aviation Aircraft, will include all aviation standards. This includes all standards which previously appeared in Volume 15.11 from Committees F37 on Light Sport Aircraft; F38 on Unmanned Aircraft Systems; F39 on Aircraft Systems; and F41 on Unmanned Maritime Vehicle Systems (UMVS); F44 on General Aviation Aircraft.
- **Online Volumes**
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ASTM Additive Manufacturing Technology Related Standards

Get the key standards you need to measure properties of additive manufacturing materials. Includes all the standards listed in the National Institute of Standards and Technology's (NIST) reports on additive manufacturing materials. This compilation of 128 standards is a useful guide for consumers, federal agencies, manufacturers, suppliers, trade and professional associations, and members of academia, and anyone working with AM materials, processes, and parts.

- Key standards include:
- F2924, Standard Specification for Additive Manufacturing Titanium-6 Aluminum-4 Vanadium with Powder Bed Fusion
 - F2971, Standard Practice for Reporting Data for Test Specimens Prepared by Additive Manufacturing
 - F3122, Standard Guide for Evaluating Mechanical Properties of Metal Materials Made via Additive Manufacturing Processes
 - F3049, Standard Guide for Characterizing Properties of Metal Powders Used for Additive Manufacturing Processes

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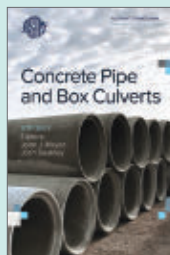
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Authors: John Meyer, Josh Beakley

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Concrete pipe products include:

- Circular pipe
- Box Culverts
- Manholes
- Precast drainage devices

Learn about the evolution of specifications and manufacturing technology. Authors describe new design and installation procedures, discuss innovative applications and uses, and introduce new technologies for concrete pipe products.

156 Pages (2017); Price \$64
ISBN 978-0-8031-7645-4
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eBook ISBN 978-0-8031-7646-1
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STP1604 Durability of Building and Construction Sealants and Adhesives: 6th

Editors: Christopher White, Hiroyuki Miyauchi

Get 17 peer-reviewed papers in the sixth edition of this valuable book for the building industry.

Understanding sealant durability, and how long a sealant will perform, is critical to the built environment. ASTM building sealant standards are used globally in the development of commercial and multi-use buildings.

International authors from Germany, Japan, Hong Kong, and the United States present state-of-the-art research on the durability of structural and weatherproofing sealants and adhesives.

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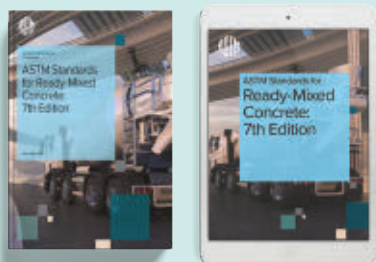
- outdoor exposure
- characterization
- finite element modeling
- monitoring of critical properties
- development of accelerated testing
- relating accelerated testing to in-service performance and modeling

323 Pages (2018); Price \$105
ISBN 978-0-8031-7653-9
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eBook ISBN 978-0-8031-7654-6
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Building and Construction

Cement and Concrete

Print and Online



ASTM Standards for Ready-Mixed Concrete 6th Edition

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- Users of C94 and C685
- Specifiers
- Engineers
- Architects
- Contractors
- Builders
- Testing labs
- Concrete manufacturers

Standards in this compilation, such as ASTM C94/C94M, are referenced in the ACI 318 Building Code for Structural Concrete and ACI 301 Specification for Structural Concrete, published by the American Concrete Institute as well as in most project specifications.

260 pages (2015)
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 ISBN 978-0-8031-7072-8
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Online Price \$189
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- Concrete masonry units
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- Grout
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- Bond strength of mortar
- Splitting tensile strength
- Flexural bond strength
- Water penetration/leakage

670 Pages (2015); Soft Cover 8.5" x 11"
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ACEM 7(2) Special Issue on Advances in Pavement Technologies in the Emerging Economies

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Detention and Correctional



Manual 76

Detention and Correctional Facilities: History and Relevance of ASTM Standards

James A. Stapleton, Jr. P.E.

Gain insights from industry practitioners creating the technical bases of standards that are keeping our correctional facilities safe. This new manual details over five decades of research, analysis, and debate.

This research is vital to creating the security products, materials and systems that will provide a safe environment for occupants and staff.

ASTM Committee F33 maintains 14 standards addressing:

- test methods of opening assemblies, walls and ceilings
- selection guides for security controls
- fire testing of cushioning materials for bunks

This manual also provides commentary on plans for the development of 16 new standards. Stay informed on the future of standards development in the corrections industry.

69 Pages (2016); Price \$50

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Editor: B. Keith Harrison

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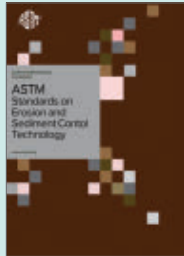
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These standards address erosion and sedimentation processes caused by wind, rain, flowing water, and wave attack. Natural materials like soil, rock riprap, and willows and grasses are covered, as are manufactured products such as mulches and tackifiers, biodegradable blankets, turf reinforcement mats, sediment retention and filtration devices, and more.

This compilation is a vital resource for soil scientists, engineers, botanists, biologists, developers, landscape architects, excavating contractors, landscapers, and resource managers.

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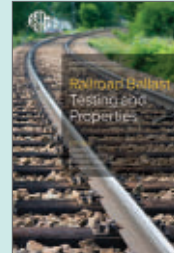
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MPC 7(2)

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- **F2971** Standard Practice for Reporting Data for Test Specimens Prepared by Additive Manufacturing
- **F3122** Standard Guide for Evaluating Mechanical Properties of Metal Materials Made via Additive Manufacturing Processes
- **F3049** Standard Guide for Characterizing Properties of Metal Powders Used for Additive Manufacturing Processes

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Editor: John Bringas

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Stephen Luko

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Petroleum



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Editor: M.R. Riazi

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U.S. Reformulated Spark-Ignition Engine Fuel and the U.S. Renewable Fuels Standard was prepared by members of Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants. It was formerly known as Research Report D02: 1347.

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Editors: Harry N. Giles and Clifford Mills

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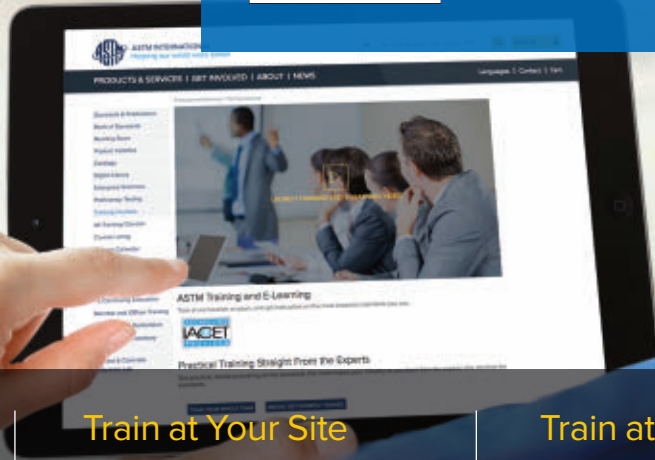
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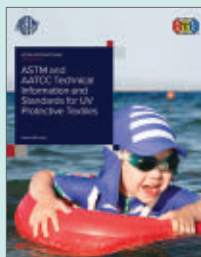
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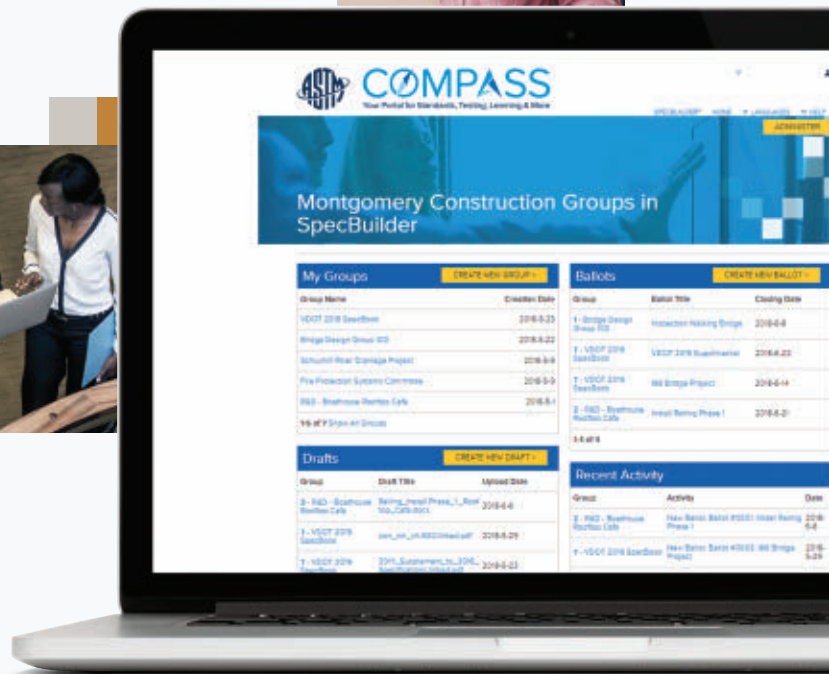
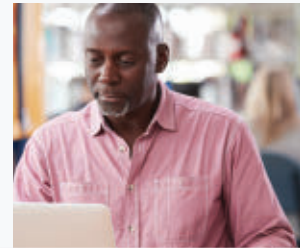


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This volume features specifications that fix the requirements for various types of structural steel, such as high-strength, low-alloy, rolled steel floor plates, and carbon-silicon steel plates. Some standards focus on plates and forgings used in boilers and pressure vessels, while others deal with steel for concrete reinforcement and prestressed concrete. Also included are specifications that set the properties for railway service rails and accessories.

Volume 01.05

Steel—Bars, Forgings, Bearing, Chain, Tool

858 Pages; 100 Standards; Available February

Print \$290

ISBN 978-1-6822-1507-4; Stock # S010519
Online \$386; Stock # VX0105

Specifications and test methods cover the properties of various steel bars 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

968 Pages; 133 Standards; Available February

Print \$285

ISBN 978-1-6822-1508-1; Stock # S010619
Online \$379; Stock # VX0106

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 (I): F670—F1511

1,260 Pages; 118 Standards; Available January

Print \$298

ISBN 978-1-6822-1408-4; Stock # S010719
Online \$396; Stock # VX0107

This volume covers requirements for steel furniture, watertight doors, and marine coatings.

Volume 01.08

Ships and Marine Technology (II): F1546—latest

878 Pages; 64 Standards; Available January

Print \$157

ISBN 978-1-6822-1510-4; Stock # S010819
Online \$208; Stock # VX0108

Covering specifications for internally and externally threaded fasteners and non-threaded driven fasteners, included are standards on rolling element bearings that establish properties for bearings used in automotive and aerospace applications.

Volume 01.09

Fasteners; Rolling Element Bearings

1,010 Pages; 100 Standards; Available January

Print \$273

ISBN 978-1-6822-1511-1; Stock #: S010919
Online \$363; Stock #: VX0108

This volume covers specifications for internally and externally threaded fasteners, and non-threaded driven fasteners. Also included are standards on rolling element bearings, establishing properties for bearings used in automotive and aerospace applications.

Section 2 Nonferrous Metal Products



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Volume 02.01

Copper and Copper Alloys

1,052 Pages; 151 Standards; Available May

Print \$306

Print ISBN 978-1-6822-1513-5; Stock # S020119
Online \$407; Stock #: VX0201

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

900 Pages; 81 Standards; Available September

Print \$299

Print ISBN 978-1-6822-1514-2; Stock # S020219
Online \$397; Stock # VX0202

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; these measure indentation hardness, shear testing, tension testing, and ultrasonic inspection.

Volume 02.03

Electrical Conductors

572 Pages; 92 Standards; Available May

Print \$186

Print ISBN 978-1-6822-1515-9; Stock # S020319
Online \$247; Stock # VX0203

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, Electrical Heating and Resistance Contacts, and Connectors

1,332 Pages; 264 Standards; Available June

Print \$370

Print ISBN 978-1-6822-1213-4; Stock # S020419
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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 flexivity of thermostat materials and resistance of electrical contacts to atmospheric corrosion also appear in this volume.

Volume 02.05

Metallic and Inorganic Coatings; Metal Powders and Metal Powder Products

1,332 Pages; 264 Standards; Available May

Print \$320

Print 978-1-6822-1516-6; Stock # S020519
Online \$425; Stock # VX0205

Under the heading of metallic and inorganic coatings, specifications establish requirements for electrodeposited 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.

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1,782 Pages; 132 Standards; Available July

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Online \$520; Stock # VX0301

Volume 03.01 covers tests and practices for mechanical testing procedures, including: machine calibration, bend and flexure testing, compression, ductility, formability, elastic properties, 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.

Volume 03.02

Corrosion of Metals; Wear and Erosion

1,088 Pages; 127 Standards; Available August

Print \$277

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Online \$368; Stock # VX0302

Offering procedures for measuring atmospheric corrosion, corrosion cracking, corrosion fatigue, natural waters and soil corrosion and in-plant corrosion, this volume also includes a joint ASTM/NACE standard and practices on assessing wear and erosion of materials and structures.

Volume 03.03

Nondestructive Testing (I): C1331—E2373

1,402 Pages; 167 Standards; Available October

Print \$289

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Volumes 03.03 and 03.04 provide standards on non-destructive testing of engineering materials, structures and assemblies to detect flaws and characterize the properties of materials. NDT methods cover: Reference Radiological Images, Radiology (Neutron, X, Gamma), Digital Imaging, Acoustic Emission, Liquid Penetrant and Magnetic Particle, Electromagnetic, Leak Testing, and Ultrasonic.

Volume 03.04

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660 Pages; 61 Standards; Available October

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Volume 03.05

Analytical Chemistry for Metals, Ores, and Related Materials: E32—Latest

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Includes procedures for obtaining and reporting chemical analyses of ferrous and nonferrous metals, metal-bearing ores, and refractories. Also covers analytical equipment, practices for conducting proficiency tests, and reporting statistical test results.

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390 Pages; 52 Standards; Available April

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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

1,210 Pages; 195 Standards; Available October

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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

1,892 Pages; 294 Standards; Available June

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Specifications, tests, and practices examine the properties of various road and paving materials and explain how to measure their characteristics.

They cover aggregates, asphalt 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

804 Pages; 177 Standards; Available June

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Specifications, test 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.

Volume 04.05

Chemical-Resistant Nonmetallic Materials; Vitrified Clay Pipe; Concrete Pipe; Fiber-Reinforced Cement Products; Mortars and Grouts; Masonry; Precast Concrete

1,642 Pages; 289 Standards; Available June

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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

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1,662 Pages; 222 Standards; Available November

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Volume 04.06 features specifications that establish 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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1,802 Pages; 204 Standards; Available November

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Specifications, tests, and practices detail the property requirements for caulking 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 different applications.

Volume 04.08

Soil and Rock (I): D420—D5876

1,674 Pages; 193 Standards; Available March

Print \$429

Print ISBN 978-1-6822-1534-0; Stock # S040819

Online \$571; Stock # VX0408

Volume 04.09

Soil and Rock (II): D5877—Latest

1,720 Pages; 169 Standards; Available April

Print \$386

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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

918 Pages; 91 Standards; Available July

Print \$277

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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—E2166

1,830 Pages; 176 Standards; Available November

Print \$511

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Volume 04.12

Building Constructions (II): E2167—Latest; Sustainability; Asset Management; Technology and Underground Utilities

1,622 Pages; 181 Standards; Available November

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Volumes 04.11 and 04.12 cover standards for measuring the performance of buildings, including: air leakage and ventilation; building economics; preservation; durability; structural performance; exterior insulation and finish systems; lead hazards; 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 also provides specifications for the evaluation and selection of exhibits for environmentally sustainable meetings, events, trade shows and conferences. With 4.12, you'll also have standards for designing and implementing efficient, cost-effective personal asset management systems. These standards encompass the entire life cycle of personal property and establish the guiding principles of asset management. Lastly, you'll have access to standards on technology and underground utilities such as rehabilitation of sewers that use chemical grouting techniques, seismic fragility of water conveyance systems, and deployment of optical fiber systems in natural gas pipelines.

Volume 04.13

Geosynthetics

872 Pages; 155 Standards; Available April

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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.

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1,854 Pages; 236 Standards; Available February

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Online \$624; Stock # VX0501

Volume 05.02 Petroleum Products, Liquid Fuels, and Lubricants (II): D3711—D6122

1,964 Pages; 207 Standards; Available March

Print \$433
Print ISBN 978-1-6822-1542-5; Stock # S050219
Online \$575; Stock # VX0502

Volume 05.03 Petroleum Products, Liquid Fuels, and Lubricants (III): D6138—D6971

1,732 Pages; 121 Standards; Available March

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Volume 05.04 Petroleum Products, Liquid Fuels, and Lubricants (IV): D6973—D7755

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These 5 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.

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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 05.05 Petroleum Products, Liquid Fuels, and Lubricants (V): D7756 - latests; Combustion Characteristics; Manufactured Carbon and Graphite Products

1,702 Pages; 143 Standards; Available February

Print \$362
Print ISBN 978-1-6822-1545-6; Stock # S050519
Online \$486; Stock # VX0505

Volume 05.05 also covers test methods to determine characteristics of motor and aviation fuels and the ignition characteristics of diesel fuels. This volume contains all the newest standards from ASTM Committee D02 – including D7974-15 Standard Test Method for Determination of Farnesane, Saturated Hydrocarbons, and Hexahydrofarnesol Content of Synthesized Iso-Paraffins (SIP) Fuel for Blending with Jet Fuel by Gas Chromatography. Features ASTM D7974, 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 05.06 Gaseous Fuels; Coal and Coke; Catalysts; Bioenergy and Industrial Chemicals from Biomass

1,276 Pages; 189 Standards; Available September

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This volume provides tests and practices to evaluate the properties of gaseous fuels, coal and coke. This volume includes standards on bioenergy and industrial chemicals from biomass, and covers characterization, manufacturing, and sustainability. It includes tests that evaluate catalytic materials, and standards for performing chemical and physical tests on manufactured carbon and graphite products.

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Print ISBN 978-1-6822-1548-7; Stock # S060119
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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

1,426 Pages; 268 Standards; Available February

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Print ISBN 978-1-6822-1549-4; Stock # S060219
Online \$454; Stock # VX0602

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 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, Polymers, Resins, Naval Stores, Cellulosic Esters, and Ink Vehicles

704 Pages; 141 Standards; Available March

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Print ISBN 978-1-6822-1550-0; Stock # S060319
Online \$414; Stock # VX0603

Volume 06.03 includes specifications and test methods that establish property requirements for various pigments, including white, black, bronze, blue, and red; resins; and polymers.

Other standards pertain to pine chemicals, primarily rosins, cellulose and cellulose derivatives, and ink vehicles, and hydrocarbon resins.

Volume 06.04

Paint—Solvents; Aromatic, Industrial, Specialty and Related Chemicals

1,142 Pages; 218 Standards; Available March

Print \$381

Print ISBN 978-1-6822-1551-7; Stock # S060419
Online \$507; Stock # VX0604

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.

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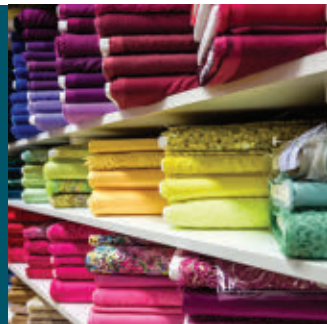
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Textiles (I): D76—D4391

1,178 Pages; 190 Standards; Available November

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Print ISBN 978-1-6822-1553-1; Stock # S070119

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Volume 07.02

Textiles (II): D4393—Latest

1,108 Pages; 167 Standards; Available November

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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.

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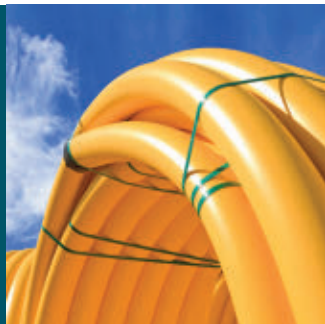
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942 Pages; 130 Standards; Available June

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Volume 08.02

Plastics (II): D3222—D5083

916 Pages; 129 Standards; Available June

Print \$321

Print ISBN 978-1-6822-1557-9; Stock # S080219
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Volume 08.03

Plastics (III): D5117—Latest; Reinforced Plastic Piping Systems and Chemical Equipment; Plastic Building Products

1,554 Pages; 223 Standards; Available July

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These 3 volumes feature over **480** plastics-related standards, including test methods that establish standard procedures for assessing physical, mechanical, optical, permanence, and thermal properties.

Volume 08.03 also covers:

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- 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

1,848 Pages; 235 Standards; Available January

Print \$369

Print ISBN 978-1-6822-1559-3; Stock # S080419
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Online \$492; Stock # VX0901

Volume 09.01 contains tests and practices for evaluating rubber, rubber-like materials, carbon black, and recovered carbon black (rCB). 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 Rubber Products, Industrial— Specifications and Related Test Methods; Gaskets; Tires

826 Pages; 130 Standards; Available August

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1,204 Pages; 54 Standards; Available August

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898 Pages; 164 Standards; Available August

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Print ISBN: 978-1-6822-1578-4; Stock #: S120119
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Volume 12.02

Nuclear (II), Solar, and Geothermal Energy; Radiation Processing

1,444 Pages; 156 Standards; Available September

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- **Nuclear Grade Materials**—standard procedures for chemical, mass spectrometric, spectrochemical, nuclear, and radiochemical analysis of these materials.

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1,432 Pages; 214 Standards;
Available September

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Print ISBN 978-1-6822-1581-4; Stock # S130119

Online \$404; Stock # VX1301

Volume 13.02

Medical and Surgical Materials and Devices (II): F2502- Latest; Emergency Medical Services; Search and Rescue; Anesthetic and Respiratory Equipment

1,698 Pages; 207 Standards;
Available September

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Print ISBN 978-1-6822-1582-1; Stock # S130219

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Volumes 13.01 and 13.02 include over 380 standards on medical and surgical materials and devices. They cover metals, polymers, and ceramics for implants, prostheses,

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400 Pages; 16 Standards; Available June

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Print ISBN 978-1-6822-1584-5; Stock # S140119
Online \$424; Stock # VX1401

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).

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

biological deterioration, joint weathering projects, natural and environmental exposure tests, and service life prediction.

- SI—the Unified American National Standard IEEE/ASTM SI-10 Standard for the Use of the International System of Units (SI): The Modern Metric System.

Volume 14.02

Particle and Spray Characterization; Forensic Sciences; Accreditation & Certification; Forensic Psychophysiology; Nanotechnology; Forensic Engineering

820 Pages; 126 Standards; Available July

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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.
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- Conformity Assessment— criteria for agencies and bodies performing inspections, selecting assessors, and certifying personnel engaged in inspection and testing of construction activities

Volume 14.03

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1,188 Pages; 85 Standards; Available July

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Specifications, guides, and test methods cover sensory evaluation, language services and products, liquid-in-glass, thermometers and hydrometers, thermocouples, medical thermometry, radiation thermometry, and resistance thermometers.

Volume 14.04

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1,048 Pages; 132 Standards; Available July

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Standards cover:

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- Degradation of Materials—standards that evaluate outdoor and laboratory accelerated weathering tests and cover

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Online \$443; Stock # VX1405

Standards cover:

- Single-use systems—guide for specification, design, verification, and application of single-use systems
- Hazard Potential of Chemicals—covers flash point, thermal stability and instability, explosibility, and autoignition temperatures of chemicals.
- Quality and Statistics—practices and guides evaluate statistical methods, sampling and data analysis, and quality statements.
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- Refractories—standards establish procedures for evaluating chemical behaviors, thermal properties, strength, monolithics, and refractories for glass.
- Activated Carbon—specifications and test methods evaluate the properties of activated carbon, including gas phase evaluation tests and liquid phase evaluation.
- Advanced Ceramics—standards cover thermal systems including heat engines, heat exchangers, armor, fuel cells, sensors/actuators, electronics, coatings, and catalyst substrates. Most feature tests in the areas of mechanical properties, physical properties, performance, and ceramic composites.

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- Composite Materials—test methods assess properties of high modulus fibers, interlaminar properties, laminates, sandwich construction, and structural methods.

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- 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.

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- 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.
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- Amusement Rides and Devices—test methods, guides and practices on the design, manufacturing, inspection, operations and maintenance of amusement rides and devices.
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- 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.
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- Vacuum Cleaners—tests evaluate filtration efficiency, air performance characteristics, cleanability, durability, and reliability.
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Volume 15.09

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798 Pages; 95 Standards; Available June

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Aerospace Personnel – These standards play a preeminent role in all aspects of aerospace personnel education, training, qualification, testing, certification requirements, and continued education concurrent with technological advancement.

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- Packaging— performance of transport containers, pallets, crates; packaging materials such as tapes, cushioning, strapping, stretch wrap and labels; package distribution and handling; measurement of transport packaging and distribution environment; reuse, recycling and disposal of materials related to packaging; performance of hazardous materials (dangerous goods) packaging.
- Primary Barrier Packaging—child resistant packaging and closure systems, food, consumer, pharmaceutical and medical device packaging; bottles, vials, pouches, blisters and trays; materials: papers, nonwovens, plastic films, rigid plastic, glass, and metal foils.

Volume 15.11

**Consumer Products; Business
Imagine Products; Vacuum
Cleaners**

1,434 Pages; 176 Standards; Available November

Print \$264

Print ISBN 978-1-6822-1600-2; Stock # S151119

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- These standards address:
 - Business Imaging Products—test methods and practices cover carbonless, thermal, electrostatic, ink jet, and inked transfer imaging products.
 - 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.

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

Volume 15.12

**Livestock, Meat, and Poultry
Evaluation Systems; Food
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920 Pages; 102 Standards; Available November

Print \$224

Print ISBN 978-1-6822-1601-9; Stock # S151219

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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.

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- A01** Steel, Stainless Steel and Related Alloys
- A04** Iron Castings
- A05** Metallic-Coated Iron and Steel Products
- A06** Magnetic Properties

B. NONFERROUS METALS

- B01** Electrical Conductors
- B02** Nonferrous Metals and Alloys
- B05** Copper and Copper Alloys
- B07** Light Metals and Alloys
- B08** Metallic and Inorganic Coatings
- B09** Metal Powders and Metal Powder Products
- B10** Reactive and Refractory Metals and Alloys

C. CEMENTITIOUS, CERAMIC, CONCRETE AND MASONRY MATERIALS

- C01** Cement
- C03** Chemical-Resistant Nonmetallic Materials
- C04** Vitrified Clay Pipe
- C07** Lime and Limestone
- C08** Refractories
- C09** Concrete and Concrete Aggregates
- C11** Gypsum and Related Building Materials and Systems
- C12** Mortars and Grouts for Unit Masonry
- C13** Concrete Pipe
- C14** Glass and Glass Products
- C15** Manufactured Masonry Units
- C16** Thermal Insulation
- C17** Fiber-Reinforced Cement Products
- C18** Dimension Stone
- C21** Ceramic Whitewares and Related Products
- C24** Building Seals and Sealants
- C26** Nuclear Fuel Cycle
- C27** Precast Concrete Products
- C28** Advanced Ceramics

D. MISCELLANEOUS MATERIALS

- D01** Paint and Related Coatings, Materials, and Applications
- D02** Petroleum Products and Lubricants
- D03** Gaseous Fuels
- D04** Road and Paving Materials
- D05** Coal and Coke
- D06** Paper and Paper Products
- D07** Wood
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- D19** Water
- D20** Plastics
- D21** Polishes

D22

- D22** Air Quality
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- D26** Halogenated Organic Solvents and Fire Extinguishing Agents
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- D31** Leather
- D32** Catalysts
- D33** Protective Coating and Lining Work for Power Generation Facilities
- D34** Waste Management
- D35** Geosynthetics

E. MISCELLANEOUS SUBJECTS

- E01** Analytical Chemistry for Metals, Ores and Related Materials
- E04** Metallography
- E05** Fire Standards
- E06** Performance of Buildings
- E07** Nondestructive Testing
- E08** Fatigue and Fracture
- E10** Nuclear Technology and Applications
- E11** Quality and Statistics
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- E13** Molecular Spectroscopy and Separation Science
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- E61** Radiation Processing
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F. MATERIALS FOR SPECIFIC APPLICATIONS

- F01** Electronics
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- F41** Unmanned Maritime Vehicle Systems (UMVS)
- F42** Additive Manufacturing Technologies
- F43** Language Services and Products
- F44** General Aviation Aircraft
- F45** Driverless Automatic Guided Vehicles

G. CORROSION, DETERIORATION, AND DEGRADATION OF MATERIALS

- G01** Corrosion of Metals
- G02** Wear and Erosion
- G03** Weathering and Durability
- G04** Compatibility and Sensitivity of Materials in Oxygen Enriched Atmospheres

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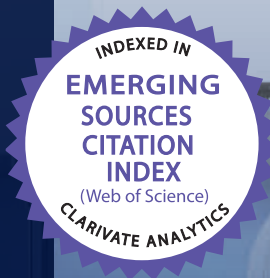


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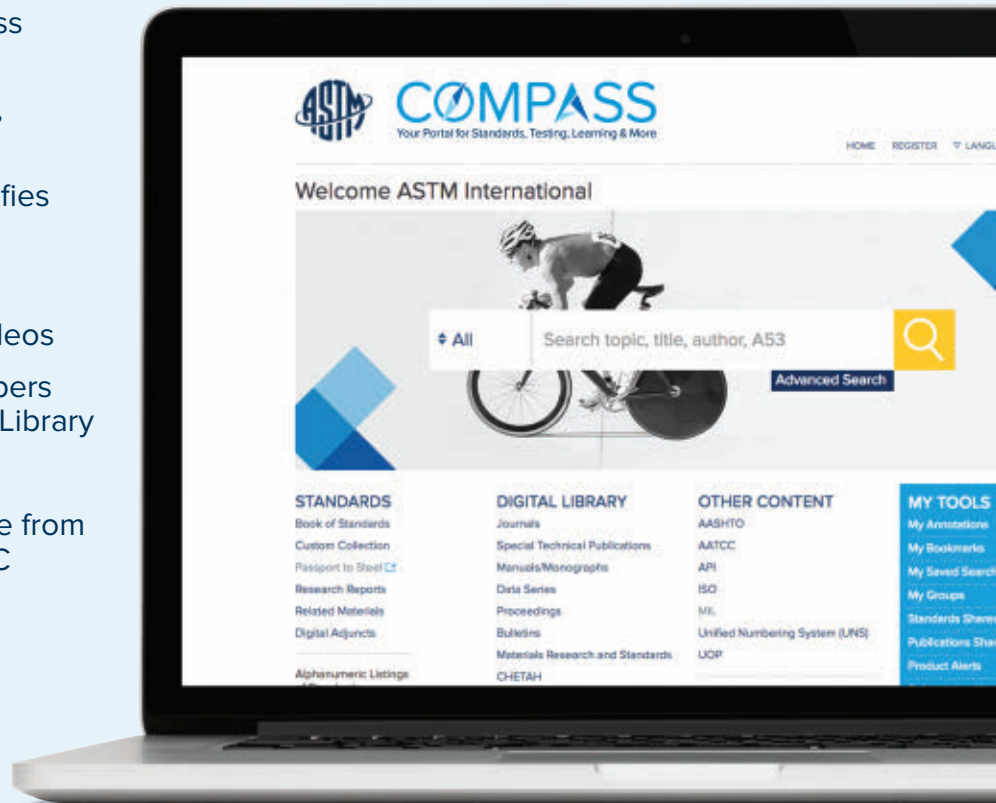
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