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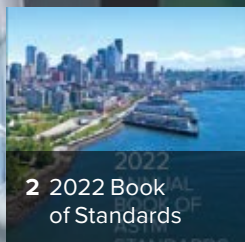
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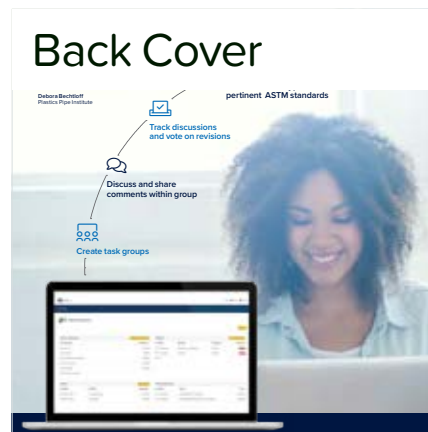
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Summary of Pricing and Availability

Volume	Online (Includes: Actives PLUS Redlines, Historicals, and Withdrawns) * Single, registered user, ** Multiple users at the same site	Price: Single User Online*	Price: Online LAN**	# of Standards	Print	
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Section 1: Iron and Steel Products

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$5,170	961	\$1,974	
01.01	Steel—Piping, Tubing, Fitting	\$481	\$962	122	\$369	Jan
01.02	Ferrous Castings; Ferroalloys	\$399	\$798	123	\$306	Jan
01.03	Steel—Plate, Sheet, Strip, Wire; Stainless Steel Bar	\$405	\$810	89	\$311	Feb
01.04	Steel—Structural, Reinforced Vessel, Railway	\$381	\$762	125	\$293	Jan
01.05	Steel—Bars, Forgings, Bearing, Chain, Tool	\$419	\$838	96	\$322	Jan
01.06	Coated Steel Products	\$412	\$824	139	\$316	Feb
01.07	Ships and Marine Technology (I): F670 - F1511	\$430	\$860	115	\$330	Jan
01.08	Ships and Marine Technology (II): F1546 - latest	\$226	\$452	66	\$174	Jan
01.09	Fasteners; Rolling Element Bearings	\$394	\$788	86	\$303	Jan

Section 2: Nonferrous Metal Products

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$3,114	783	\$1,189	
02.01	Copper and Copper Alloys	\$441	\$882	153	\$339	May
02.02	Aluminum and Magnesium Alloys	\$431	\$862	77	\$331	Sept
02.03	Electrical Conductors	\$268	\$536	92	\$206	May
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	\$534	\$1,068	259	\$410	June
02.05	Metallic and Inorganic Coatings; Metal Powders and Metal Powder Products	\$461	\$922	192	\$354	May

Section 3: Metals Test Methods and Analytical Procedures

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$3,950	747	\$1,507	
03.01	Metals—Mechanical Testing; Elevated and Low-Temperature Tests; Metallography	\$564	\$1,128	131	\$433	July
03.02	Corrosion of Metals; Wear and Erosion	\$399	\$798	129	\$306	Aug
03.03	Nondestructive Testing (I): C1331 - E2373	\$417	\$834	163	\$320	Oct
03.04	Nondestructive Testing (E2374 – latest)	\$196	\$392	69	\$149	Oct
03.05	Analytical Chemistry for Metals, Ores, and Related Materials	\$587	\$1,174	116	\$451	Oct
03.06	Molecular Spectroscopy and Separation Science; Surface Analysis	\$337	\$674	84	\$259	Oct
03.07	Magnetic Properties	\$210	\$420	52	\$161	April

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Section 4: Construction

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04.01	Cement; Lime; Gypsum	\$383	\$766	146	\$294	Sept
04.02	Concrete and Aggregates	\$431	\$862	192	\$331	Oct
04.03	Road and Paving Materials; Vehicle–Pavement Systems	\$548	\$1,096	300	\$421	June
04.04	Roofing and Waterproofing	\$328	\$656	179	\$252	June
04.05	Chemical–Resistant Nonmetallic Materials; Vitrified Clay Pipe; Concrete Pipe; Fiber-Reinforced Cement Products; Mortars and Grouts; Masonry; Precast Concrete	\$545	\$1,090	252	\$418	June
04.06	Thermal Insulation; Building and Environmental Acoustics	\$617	\$1,234	224	\$474	Nov
04.07	Building Seals and Sealants; Fire Standards; Dimension Stone	\$545	\$1,090	207	\$418	Nov
04.08	Soil and Rock (I): D420–D5876	\$619	\$1,238	189	\$476	Mar
04.09	Vitrified Clay Pipe; Concrete Pipe; Fiber-Reinforced Cement Products; Mortars and Grouts; Masonry; Precast Concrete; Stormwater Control Measures	\$557	\$1,114	191	\$427	April
04.10	Wood	\$399	\$798	93	\$307	July
04.11	Building Constructions (I): E72–E2166	\$738	\$1,476	153	\$567	Nov
04.12	Building Constructions (II): E2167–Latest; Sustainability; Asset Management; Technology and Underground Utilities	\$469	\$938	170	\$361	Nov
04.13	Geosynthetics	\$314	\$628	160	\$241	May

Section 5: Petroleum Products, Lubricants, and Fossil Fuels

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$5,116	1,087	\$1,950	
05.01	Petroleum Products, Liquid Fuels, and Lubricants (I): C1234-D3709	\$677	\$1,354	255	\$520	Feb
05.02	Petroleum Products, Liquid Fuels, and Lubricants (II): D3711-D6122	\$625	\$1,250	223	\$480	Mar
05.03	Petroleum, Liquid Fuels, and Lubricants (III): D6138-D6971	\$646	\$1,292	137	\$496	Mar
05.04	Petroleum Products, Liquid Fuels, and Lubricants (IV): D6973-D7755	\$545	\$1,090	169	\$418	Mar
05.05	Petroleum Products, Liquid Fuels, and Lubricants (V): D7756-Latest; Combustion Characteristics; Manufactured Carbon and Graphite Products	\$528	\$1,056	102	\$401	Feb
05.06	Gaseous Fuels; Coal and Coke; Catalysts; Bioenergy and Industrial Chemicals from Biomass	\$489	\$978	202	\$376	Sept

Section 6: Paints, Related Coatings, and Aromatics

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$2,992	889	\$1,143	
06.01	Paint—Tests for Chemical, Physical, and Optical Properties; Appearance	\$561	\$1,122	250	\$431	Feb
06.02	Paint—Products and Applications; Protective Coatings; Pipeline Coatings	\$493	\$986	269	\$379	Feb
06.03	Paint—Pigments, Polymers, Resins, Naval Stores, Cellulosic Esters, and Ink Vehicles	\$449	\$898	141	\$345	Mar
06.04	Paint—Solvents; Aromatic Hydrocarbons; Industrial, Specialty and Related Chemicals	\$550	\$1,100	221	\$422	Mar

Section 7: Textiles

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$1,418	344	\$541	
07.01	Textiles (I): D76-D4391	\$516	\$1,032	182	\$397	Nov
07.02	Textiles (II): D4393-Latest	\$456	\$912	166	\$350	Nov

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Section 8: Plastics

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$2,936	728	\$1,121	
08.01	Plastics (I): C1147–D3159	\$442	\$884	127	\$339	June
08.02	Plastics (II): D3222–D5083	\$463	\$926	128	\$356	June
08.03	Plastics (III): D5117–Latest Reinforced Plastic Piping Systems and Chemical Equipment; Plastic Building Products	\$577	\$1,154	220	\$443	July
08.04	Plastic Piping Systems (I): D1598 – F2735	\$388	\$776	179	\$298	Jan
08.05	Plastic Piping Systems (II): F2737 – latest (NEW BOS Volume)	\$152	\$304	70	\$111	Jan

Section 9: Rubber

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$1,258	347	\$480	
09.01	Rubber, Natural and Synthetic—General Test Methods; Carbon Black	\$534	\$1,068	221	\$410	July
09.02	Rubber Products, Industrial—Specifications and Related Test Methods; Gaskets; Tires	\$328	\$656	132	\$253	Aug

Section 10: Electrical Insulation and Electronics

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$1,258	347	\$480	
10.01	Electrical Insulation (I): D69–D2484	\$342	\$684	50	\$263	May
10.02	Electrical Insulation (II): D2519–Latest	\$380	\$760	92	\$292	May
10.03	Electrical Insulating Liquids and Gases; Electrical Protective Equipment	\$314	\$628	101	\$241	May
10.04	Electronics; Declarable Substances in Materials; 3D Imaging Systems; Additive Manufacturing Technologies	\$438	\$876	153	\$337	April

Section 11: Water and Environmental Technology

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$5,202	1,043	\$1,986	
11.01	Water (I)	\$499	\$998	142	\$383	April
11.02	Water (II)	\$515	\$1,030	217	\$395	May
11.03	Occupational Health and Safety; Protective Clothing	\$303	\$606	97	\$233	Oct
11.04	Waste Management	\$323	\$646	103	\$248	Sept
11.05	Environmental Assessment, Risk Management and Corrective Action	\$398	\$796	66	\$306	Aug
11.06	Environmental Biological Effects and Environmental Fate; Industrial Biotechnology	\$477	\$954	47	\$366	Aug
11.07	Air Quality	\$525	\$1,050	209	\$404	Oct
11.08	Pesticides, Antimicrobials, and Alternative Control Agents; Hazardous Substances and Oil Spill Response	\$528	\$1,056	172	\$406	Aug

Section 12: Nuclear, Solar, and Geothermal Energy

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12.02	Nuclear (II); Solar, and Geothermal Energy; Radiation Processing	\$525	\$1,050	158	\$403	Sept

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13.01	Medical and Surgical Materials and Devices (I): E667-F2477	\$438	\$876	208	\$336	Sept
13.02	Medical and Surgical Materials and Devices (II): F2502-Latest; Emergency Medical Services; Search and Rescue; Anesthetic and Respiratory Equipment	\$535	\$1,070	230	\$411	Sept

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SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$3,296	534	\$1,243	
14.01	Statistical Methods; Hazard Potential of Chemicals; Thermal Measurements; Manufacture of Pharmaceutical and Biopharmaceutical Products; Healthcare Informatics	\$915	\$1,830	176	\$692	June
14.02	Particle and Spray Characterization; Forensic Sciences; Accreditation & Certification; Forensic Psychophysiology; Nanotechnology; Forensic Engineering	\$354	\$708	144	\$270	July
14.03	Sensory Evaluation; Temperature Measurement; Language Services and Products	\$558	\$1,116	91	\$418	July
14.04	Laboratory Apparatus; Degradation of Materials; SI; Oxygen Fire Safety	\$409	\$818	133	\$311	July

Section 15: General Products, Chemical Specialties, and End Use Products

SECTION	Save 25% on Complete Set (must be prepaid; price reflects discount)		\$6,464	1,988	\$2,465	
15.01	Refractories; Activated Carbon; Advanced Ceramics	\$456	\$912	155	\$350	Mar
15.02	Glass; Ceramic Whitewares	\$310	\$620	122	\$238	April
15.03	Space Simulation; Aerospace and Aircraft; Composite Materials	\$516	\$1,032	202	\$397	Oct
15.04	Soaps and Other Detergents; Polishes; Leather; Resilient Floor Coverings	\$436	\$872	281	\$335	Sept
15.05	Engine Coolants and Related Fluids; Halogenated Organic Solvents and Fire Extinguishing Agents	\$284	\$568	120	\$218	Aug
15.06	Adhesives	\$344	\$688	125	\$264	Aug
15.07	Sports Equipment, Playing Surfaces, and Facilities; Pedestrian/Walkway Safety and Footwear; Amusement Rides and Devices; Snow Skiing	\$440	\$880	264	\$338	Nov
15.08	Security Systems and Equipment; Detention and Correctional Facilities; Homeland Security Applications; Driverless Automatic Guided Industrial Vehicles; Exoskeletons and Exosuits	\$256	\$512	180	\$195	Nov
15.09	Light Sport Aircraft; Unmanned Aircraft Systems; Aircraft Systems; Aerospace Personnel; General Aviation Aircraft	\$240	\$480	130	\$183	June
15.10	Packaging; Primary Barrier Packaging; Cannabis	\$497	\$994	241	\$382	June
15.11	Consumer Products; Business Imaging Products; Vacuum Cleaners	\$383	\$766	144	\$293	Nov
15.12	Livestock, Meat, and Poultry Evaluation Systems; Food Service Equipment	\$323	\$646	101	\$248	Nov



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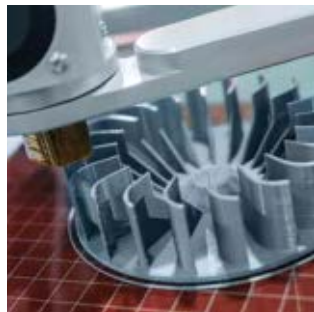
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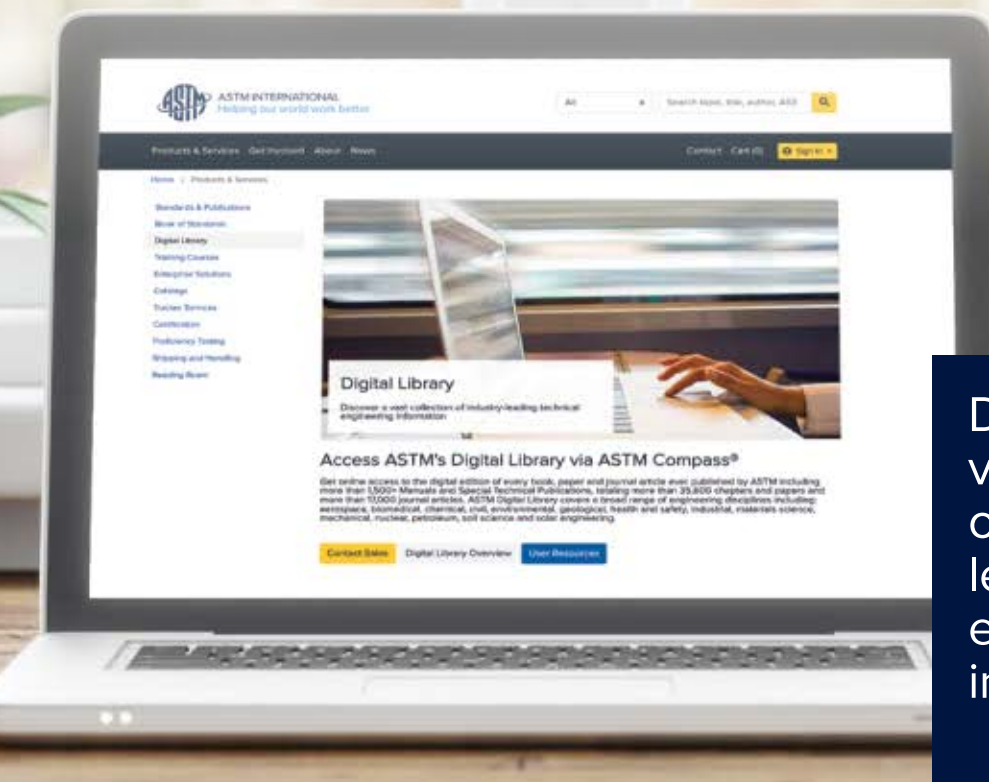
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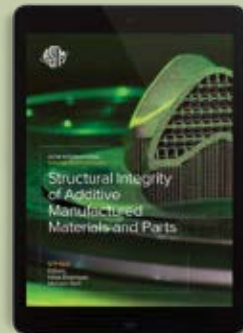
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- effects of design, process, and post-process parameters on fatigue and fracture properties
- process optimization to improve structural integrity of AM parts
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STP 1631 Structural Integrity of Additive Manufactured Materials and Parts

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A wide variety of topics were covered at the event, including a focus on design principles as well as qualification and certification challenges. The selected technical papers chosen for this volume delve further into:

- nondestructive evaluation in situ monitoring and process control of AM parts
- fatigue, fracture, tensile, and corrosion behavior of materials and parts fabricated using AM
- effects of design, process, and post-process parameters on fatigue and fracture properties
- process optimization to improve structural integrity of AM parts
- applicability of existing test methods to AM materials and parts and innovative approaches to standardization
- recent advances in standardization, qualification, and certification

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Autonomous Vehicles

Aviation

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STP 1594

Autonomous Industrial Vehicles: From the Laboratory to the Factory Floor

Editors: Roger Bostelman,
Elena Messina

Get 8 papers that detail perspectives from related standards efforts, industry needs, and cutting-edge research on Automatic guided vehicles (AGVs). The authors discuss performance standards and benchmarks that can enable technology transfer from the laboratory to industry. These papers tackle the complexities of multiple AGVs operating in unstructured environments.

This book comprises expanded versions of selected papers presented at the Institute of Electrical and Electronic Engineers International Conference on Robotics and Automation (ICRA) workshop. This research sets the stage by reviewing standards development for other mobile robot application domains, such as emergency response, and suggests approaches for tackling performance measurement for intelligent AGVs.

152 pages (2016); Price \$65
ISBN 978-0-8031-7633-1
Stock # STP1594
eBook ISBN 978-0-8031-7634-8
eBook Stock # STP1594-EB

TR1-EB

Autonomy Design and Operations in Aviation: Terminology and Requirements Framework

This document can serve as guidance to aviation-related ASTM technical committees as they discuss and develop standards related to increasingly autonomous systems in aviation. This document provides definitions related to automation, autonomy, artificial intelligence, and machine learning and a proposed framework that can be used to determine the appropriate applicability of various requirements to these systems. Specifically, this document will help standards committees produce a consistent and cohesive body of standards by providing harmonized terminology and a holistic framework for discussing and determining requirements for increasingly autonomous systems.

28 pages (2019); Price \$60
eBook ISBN-EB-978-0-8031-7115-2
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TR2-EB

Developmental Pillars of Increased Autonomy for Aircraft Systems

Increased automation for aircraft systems holds the promise to increase safety, precision, and availability for manned and unmanned aircraft. Specifically, established aviation segments, such as general aviation and light sport, could utilize increased automation to make significant progress towards solving safety and piloting difficulties that have plagued them for some time. Further, many emerging market segments, such as urban air mobility and small unmanned (e.g., small parcel delivery with drones) have a strong financial incentive to develop increased automation to relieve the pilot workload, and/or replace in-the-loop pilots for most situations. Before these advances can safely be made, automation technology must be shown to be reliable, available, accurate, and correct within acceptable limits based on the level of risk these functions may create. However since inclusion of these types of systems is largely unprecedented at this level of aviation, what constitutes these required traits (and at what level they must be proven to) requires development as well. Progress in this domain will likely be captured and disseminated in the form of best practices and technical standards created with collaboration from regulatory and industry groups.

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Building and Construction



Advances in Civil Engineering Materials (ACEM)

This peer-reviewed journal covers topics relating to the properties and performance of civil engineering materials.

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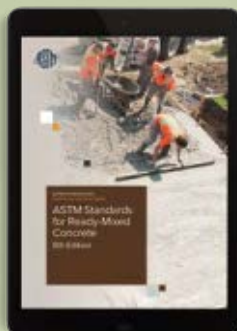
Core topics are characterization, physical properties, constructability, and durability of these materials. Papers relating to sustainability of engineering materials are especially encouraged.

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ASTM Standards for Ready-Mixed Concrete 8th Edition

Get this 8th edition compilation with 44 standards. This publication is a valuable resource for:

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- 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.

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- NFPA5000™ – Building Construction and Safety Code®
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STP1617

Building Science and the Physics of Building Enclosure Performance

Editors: Daniel Lemieux,
Jennifer Keegan

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- energy modeling
- human comfort and productivity in built environments
- building enclosure codes and standards
- material selection for climate-specific durability and performance
- adaptive reuse and conservation in truly sustainable design

The papers featured were presented at the first joint symposium of ASTM International Committees D08 on Roofing and Waterproofing and E06 on Performance of Buildings held in 2018.

489 Pages (2020); Price \$157

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STP1621

Roofing Research and Standards Development: 9th Volume

Editors: Sudhakar Molleti, Walter Rossiter

Sponsored by ASTM International Committee D08 on Roofing and Waterproofing, the research presented in this book is consistent with the broad range of standards activities within the committee. Both practical and fundamental topics are addressed, with papers on:

- the impact of cool roof technologies upon heat wave meteorology and human health in Boston and Chicago
- validation of roofing membrane composition by NMR: products of ketone-ethylene ester and polyvinyl chloride
- the IBHS roof aging farm program
- the necessity of underlayment
- understanding walkability and grip to deck of roof underlayment
- lab conditioning methods for asphalt shingles
- the thermal impact of typical roof penetrations
- energy resistance of commercial roofs
- durability of polyolefin polymers in steep slope roofing underlayment materials
- effects of moisture in concrete roof decks on vapor retarder adhesion

232 Pages (2020); Price \$86

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Building and Construction



STP 1629

Performance, Properties, and Resiliency of Thermal Insulations

Editors: Diana Fisler, Marcin Pazera

Featuring nine peer-reviewed papers with state-of-the-art knowledge on topics related to performance of resiliency of thermal insulation materials in the built environment.

More frequent and extreme weather events, increasing global temperatures, and recently, a global pandemic, are stressing the ingenuity of the building industry and building professionals to respond. This book provides key information the industry needs, with separate sections on mechanical and pipe insulations and the building envelope and materials therein.

Sponsored by ASTM International Committee C16 on Thermal Insulation.

184 Pages (2021); Price \$72

ISBN 978-0-8031-7704-8

Stock # STP1629

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Advances in Civil Engineering Materials Special Issue on Higher Performance Cementitious Materials

Editor: Yizheng Cao

Learn more about the latest advances in high performance cementitious materials (HPCM) in this special issue. A broad class of cement-based materials, HPCM are often made with selected high-quality ingredients and optimized mixture designs. Multiple methods have been proposed to achieve the high performance of these materials, as they meet various increasing needs in construction.

This book features 24 peer-reviewed papers from cement experts that reflect the most recent advances in the dynamic HPCM field. The paper topics range from cement composites with specialty additives and fundamental studies on methods to numerical and analytical investigations. Research on the latest trends is also included with two review papers.

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Guest Editors: Krishna Prapoorna Biligiri, Jorge B. Sousa, Alex T. Visser, Rongji Cao, Luiz Guilherme Rodrigues de Mello

Get insights on the evolving science and engineering of pavement technology in emerging economies worldwide.

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- railway crossings

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Cement, Concrete and Aggregates 1979–2004 Backfile (CCA)

This peer-reviewed journal includes the entire backfile of ASTM Cement, Concrete and Aggregates, published from 1979 until 2004. Cement, Concrete and Aggregates deals with the properties of concrete and its constituent materials (e.g., mechanical properties, durability, and cement).

Individual Subscription Rates
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New



STP1609 Advances in Electrochemical Techniques for Corrosion Monitoring and Laboratory Corrosion Measurements

Editors: Sankara Papavinasam, Raul Rebak, Lietai Yang, Neal Berke

You'll get 20 peer-reviewed papers that were presented at a symposium sponsored by ASTM International Committee G01 on Corrosion of Metals that took place in November 2017.

Corrosion experts from Argentina, China, Canada, India, Italy, and the United States came together at the two-day symposium to celebrate the legacy of corrosion expert, longtime G01 member, and former chairman of the ASTM Board of Directors Dr. Robert Baboian and present papers on new state-of-the-art techniques.

Topics include:

- Application of electrochemical techniques in the field
- Advancement in electrochemical techniques in measuring corrosion in the laboratory
- Investigation of material and electrolyte properties using electrochemical techniques
- Integration of electrochemical techniques with other techniques and tools

390 Pages (2019); Price \$125
ISBN 978-0-8031-7659-1
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eBook ISBN 978-0-8031-7660-7
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Composites

Corrosion

New



STP1613

Advances in Cement Analysis and Concrete Petrography

Editors: Derek Cong, Don Broton

Learn more about new supplementary cementitious materials and recent developments in cement analysis and concrete petrography.

You'll get 12 peer-reviewed papers that cover a broad range of subjects related to material characterizations in the construction industry, including.

- Cement manufacturing process
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- Fly ash analysis
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- Alkali-silica reaction (ASR) and its assessment using damage rating index
- Determination of water-to-cementitious binder ratio using fluorescent techniques
- Quantitative determination of ground calcium carbonate in concrete
- Evaluation of particulate-based admixtures in hardened concrete
- Case studies in cement analysis and concrete petrography

The papers presented in this book were part of the international symposium on Advances in Cement Analysis and Concrete Petrography held in San Diego, CA, in June 2018.

206 Pages (2019); Price \$80
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Journal of Composites Technology and Research 1978–2003 Backfile (JCTR)

This peer-reviewed journal includes the entire backfile of the ASTM Journal of Composites Technology and Research (JCTR), published from 1978 to 2003. JCTR provided a forum for the presentation, discussion and dissemination of information on composite materials and their response to the environments in which they are used.

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Best Seller



Manual 20

Corrosion Tests and Standards Application and Interpretation, 2nd Edition

Editor: R. Baboian

Eight sections of this highly-respected publication cover:

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- Testing for corrosion types
- Testing in equipment
- Materials testing
- Testing in industries
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Smart and Sustainable Manufacturing Systems Special Issue on Smart Manufacturing in Energy Intense Process Industries

Editor: Tom Edgar, Yinlun Huang

You'll get eight peer-reviewed papers in this first special issue of Smart and Sustainable Manufacturing Systems. State-of-the-art research in the key areas of smart manufacturing in the energy intensive process industries is presented, with topics that include:

- Natural gas-based hydrogen production utilizing hybrid energy resources
- Dynamic modeling and explicit control of a PEM water electrolysis process
- Stochastic programming approach versus estimator-based approach for sensor network design
- Data-based nonlinear model identification in economic model predictive control
- Proactive automation of a batch manufacturer in a smart grid environment
- Reliability of C-H-O symbiosis networks under source streams uncertainty
- Data-driven modeling and analysis of energy efficiency of geographically distributed manufacturing
- Manufacturing (IoTfM) enterprise software architecture

189 Pages (2018); Price \$55

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STP1622

Zirconium in the Nuclear Industry: 19th International Symposium

Developer: Arthur T. Motta and Suresh K. Yagnik

Featuring 37 peer-reviewed and award-winning papers from industry experts that were presented at this 2019 symposium held in Manchester, United Kingdom.

Topics covered include:

- fabrication and alloy development
- mechanical behavior
- in-reactor behavior and irradiation effects
- corrosion
- hydrogen effects
- hydrides in zirconium alloys
- high-temperature transients and modelling of process or phenomenon

Sponsored by ASTM International Committee B10 on Reactive and Refractory Metals and Alloys and its subcommittee Zirconium and Hafnium.

942 Pages (2020); Price \$259

ISBN 978-0-8031-7079-7

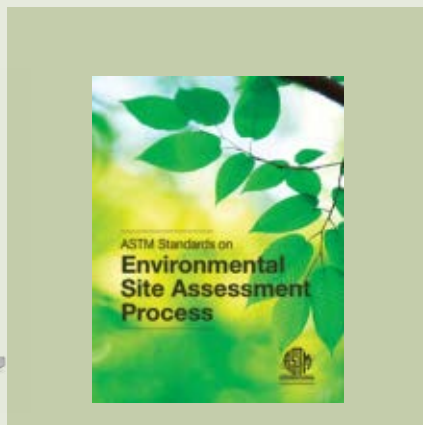
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STP 1618 Detection Limits in Air Quality and Environmental Measurements

Editor: Michael Brisson

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- overview and standards development activities
- policy issues and mathematical basis
- applications and recent developments
- censored data

This publication is dedicated to Dr. Harry L. Rook, a longtime ASTM member and past chair of ASTM International Committee D22 on Air Quality.

251 Pages (2019); Price: \$92
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Stock # STP1618
eBook ISBN 978-0-8031-7683-6
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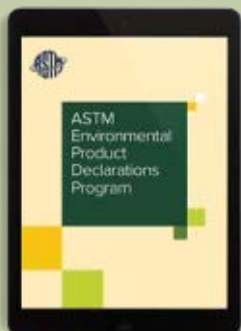
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MNL80

Surfactants and Detergents: Chemistry and Applications

Editor: Syed Q. A. Rizvi

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Smart and Sustainable Manufacturing Systems

Co-Editors: Dr. Sudarsan Rachuri & Dr. Yinlun Huang

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Editor: Curtis Elsik

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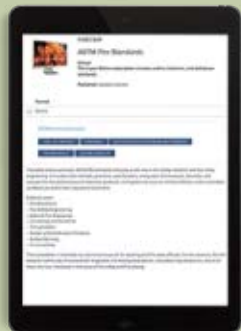


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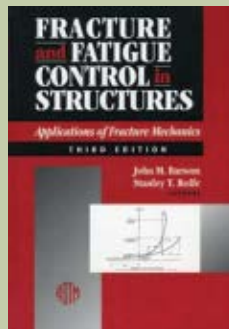
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Smart and Sustainable Manufacturing Systems Special Issue on Smart and Sustainable Manufacturing in the Post-COVID-19 Manufacturing Era

Editors: Soundar Kumara, Manoj Kumar Tiwari, Yinlun Huang

This special issue is comprised entirely of Technical Notes.

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The papers in this issue address various facets: From how to standardize biotechnology platforms for vaccine production to pandemic proofing our factories to how artificial intelligence can help our manufacturing. Papers cover various aspects of manufacturing, including resilient supply chains and discovering supply chains. Authors dealt with the intricate details of manufacturing to the philosophical aspects of economy. We have a diverse set of authors, including a physician sharing his thoughts on making masks.

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Editors: M. Mitchell, Brian Berg, Terry Woods, Kenneth Jerina

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- fatigue of CoCr alloys
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The papers in this publication were part of a symposium sponsored by ASTM International Committees E08 on Fatigue and Fracture and F04 Medical and Surgical Materials and Devices. A full understanding of the research presented here, along with standards development, are essential for determination of the in-situ lifetime assessment and durability of related alloys and devices.

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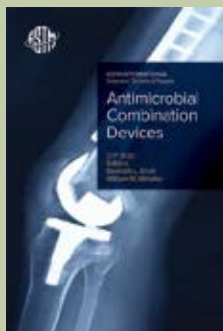
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STP 1630

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Editors: Kenneth Urish, William Mihalko

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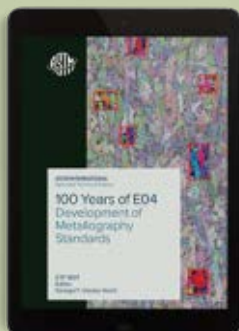
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100 Years of E04 Development of Metallography Standards

Editor: George Vander Voort

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The papers in this book were presented at a symposium celebrating the 100th anniversary of ASTM International Committee E04 on Metallography held in November 2017.

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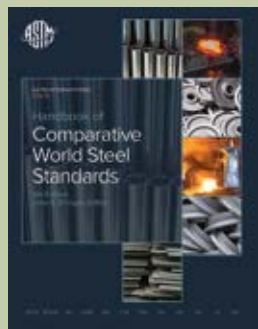
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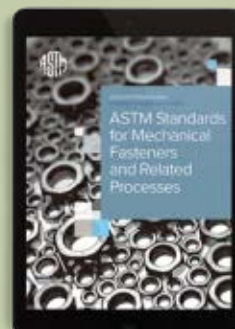
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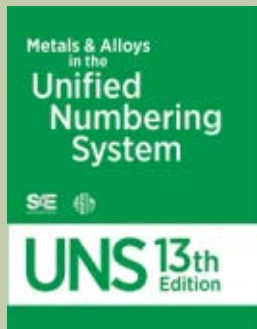
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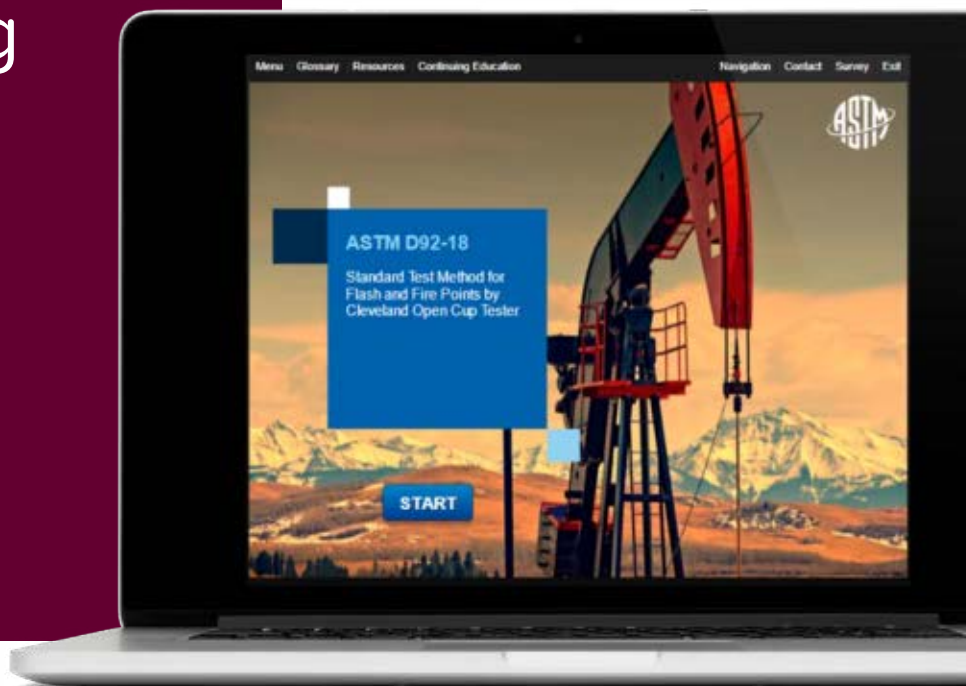
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Paints and Coatings



Manual 17

Paint and Coating Testing Manual 15th Edition of the Gardner-Sward Handbook

Editor: J.V. Koleske

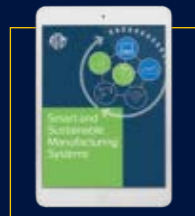
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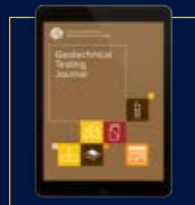
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Petroleum



Manual 69

Fuel Specifications: What They Are, Why We Have Them and How They Are Used

Co-Editors: Salvatore J. Rand, Allen W. Verstuyft

This new manual outlines reasons for fuel characteristics and the requirements of each specification. This is a complement product to our best-selling Manual 1. Written by our expert fuels instructors, this manual is an excellent resource for:

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115 Pages (2016); Price \$65
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Manual 44

Guide to ASTM Test Methods for the Analysis of Petroleum Products, Liquid Fuels, and Lubricants 3rd Edition

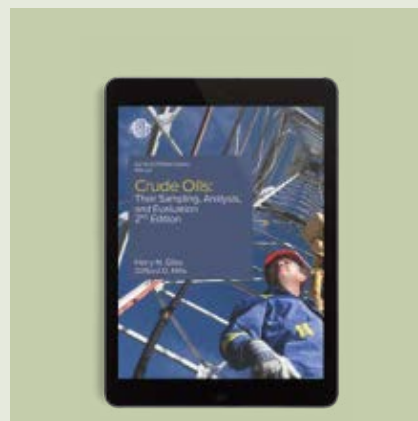
Editor: R.A. Kishore Nadkarni

Originally published in 2000, this new and enlarged third edition features over 130 new and 75 revised petroleum test methods published through 2018. Featuring the essential elements of all standard analytical tests used to characterize petroleum products and lubricants, this book is a useful tool for oil industry researchers, analysts, marketers, and regulators.

Brief descriptions of 600+ tests are described, including principles involved, test summary, advantages, limitations, and test precision data. Where available, equivalent tests from IP, ISO, JIS, DIN, and AFNOR are also referenced.

The test methods covered involve a variety of analytical techniques to identify and/or quantify over 220 chemical and physical properties of crude oils, gasoline, reformulated gasoline, lubricating oils, additives, transmission fluids, lubricating greases, gear oils, aviation fuels, diesel and heating fuels, petroleum waxes, marine fuels, and other specialty petroleum products.

406 Pages (2020); Price \$119
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Manual 68

Crude Oils: Their Sampling, Analysis, and Evaluation 2nd Edition

Editors: Harry N. Giles and Clifford Mills

Get detailed assessments of crude oil sampling in this newly revised comprehensive manual.

New for the second edition: discussion of new and revised ASTM standards, issues related to tight (unconventional) oil, advances in determination of crude oil properties.

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Petroleum



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Note: This document is not an ASTM standard. It is a compilation of information available from various government sources (both state and federal) provided solely for informational purposes. Since government laws and regulations change frequently, ASTM makes no representation concerning the accuracy, completeness or reliability of the information contained herein. It is recommended that users verify regulatory requirements that may be applicable to their situation. This document is updated on an ongoing basis. If there is any doubt as to the latest edition of this Research Report, contact ASTM headquarters.

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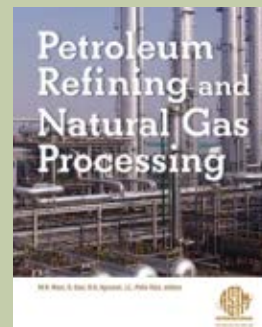
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Manual 58

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Editors: M.R. Riazi, S. Eser, S.S. Agrawal, J.L. Peña-Díez

This one-of-a-kind, comprehensive handbook provides the latest industry and research advances in petroleum refining, natural gas processing, and refinery management. Over 40 scientists, experts and professionals from both academia and industry have contributed to the 33 chapters in this handbook.

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Manual 77

Analysis of Biofuels: A Laboratory Resource

R.A. Kishore Nadkarni

Get more than 100 test methods, 7 chapters and 40 figures related to biofuels. Divided into three sections: physical testing, chemical analysis and elemental analysis, this book is a cutting-edge resource for traditional oil company laboratories and biofuels laboratories. This manual also offers results from ASTM Committee D02's proficiency testing programs with data from the last two years and the conclusions drawn from them.

210 Pages (2016); Price \$75

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Manual 37, 2nd Edition

Fuels and Lubricants Handbook: Technology, Properties, Performance and Testing, 2nd Edition

Editor: G. E. Totten

Section Editors: David Forester,
R. J. Shah

Manual 37 is a comprehensive, in-depth, well-referenced handbook that provides a detailed overview of all of the important ASTM and non-ASTM fuels and lubricants test procedures. Readers will get a thorough overview of the application-related properties being tested and an extensive discussion of the principles behind the tests and their relationship to the properties themselves.

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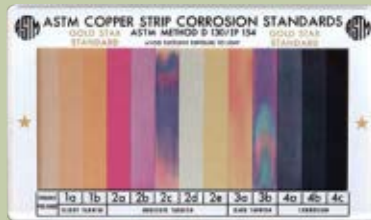
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Editor: R.A. Kishore Nadkarni

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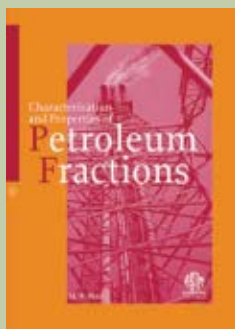
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Second Printing

Manual 50

Characterization and Properties of Petroleum Fractions

Author: M.R. Riazi

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Manual 5

Aviation Fuel Quality Control Procedures 5th Edition

Editor: J. Gammon

Extensively updated, this manual provides a complete explanation of 33 common procedures used by fuel handlers to assess and protect aviation fuel quality.

New to this edition

- Expanded detail on all tests and additional water detection equipment listed
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- Fuel sampling techniques section was improved to keep up with the changes in ASTM D4306
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- New and vitally important section on flushing new aviation fuel hoses
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- Rewritten section on microbial contamination detection

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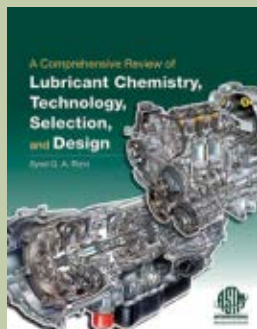
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Petroleum



Manual 59

A Comprehensive Review of Lubricant Chemistry, Technology, Selection, and Design

Author: Syed Q.A. Rizvi

This unique ASTM manual is written by both chemists and lubrication engineers and places equal emphasis on the chemistry and the formulation of lubricants. It includes additive technology used in petroleum exploration, refining, and fuels.

Manual 59 complements ASTM's Manual 37 by integrating useful information to lubrication engineers.

665 Pages (2009); Price \$150
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New Edition



Manual 1

Significance of Tests for Petroleum Products: 9th Edition

Editor: S.J. Rand, Ph.D.
 and Allen W. Verstuyft, Ph.D.

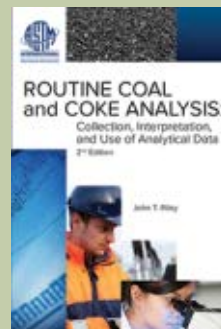
Get the latest analytical procedures and specifications for a vast range of petroleum products. All tests are designed to measure product properties so that the "quality" of that product may be described. Learn about the relevant tests that are done on various petroleum products and why those particular tests are performed.

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 - Spectroscopic Methods for Spark Ignition Fuels
 - Gasoline and Diesel Fuel Additives

405 Pages (2019); Price \$120
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Manual 57

Routine Coal and Coke Analysis: Collection, Interpretation, and Use of Analytical Data 2nd Edition

Author: John T Riley

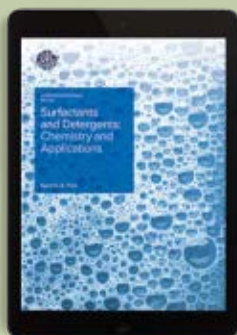
This new edition provides guidance for the use of ASTM coal standards including setting up the laboratory for the tests and training staff in fuel testing laboratories. With the latest information on routine coal and coke analysis, discussions of new standards, presentation of revised standards, this manual is the most current and comprehensive resource available.

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Plastics



Manual 80

Surfactants and Detergents: Chemistry and Applications

Editor: Syed Q. A. Rizvi

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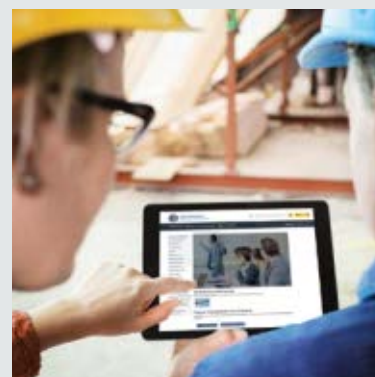
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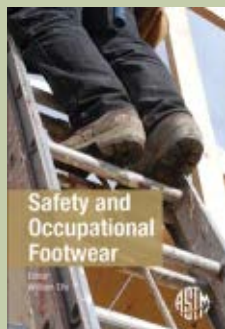
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Editor: William Ells

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74 Pages (2014); Price \$65

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STP 1624

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Editors: Karen Lehtonen, Brian Shiels, R. Ormond

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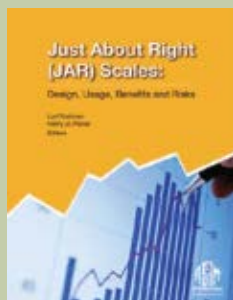
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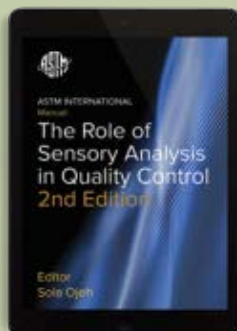
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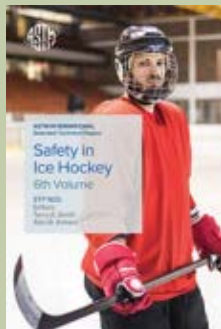
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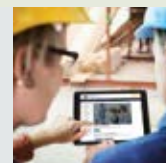
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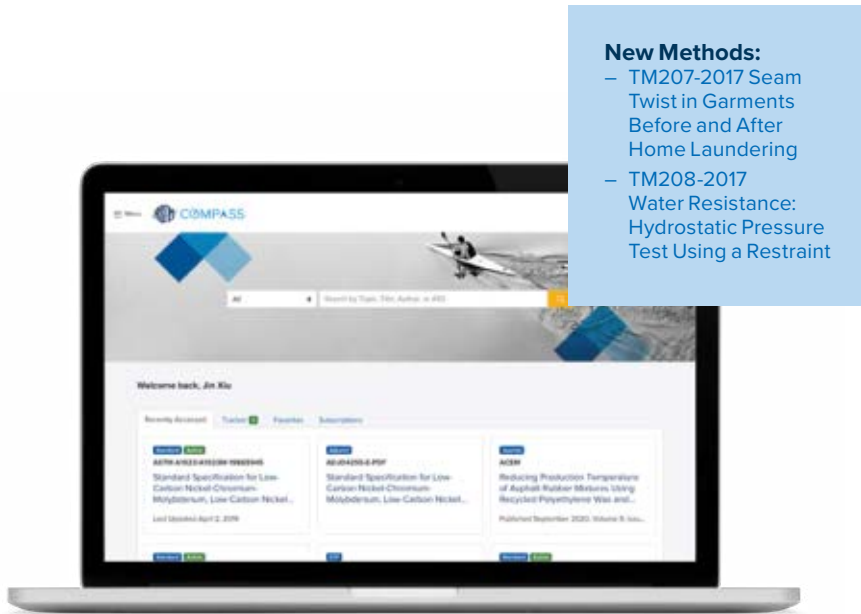
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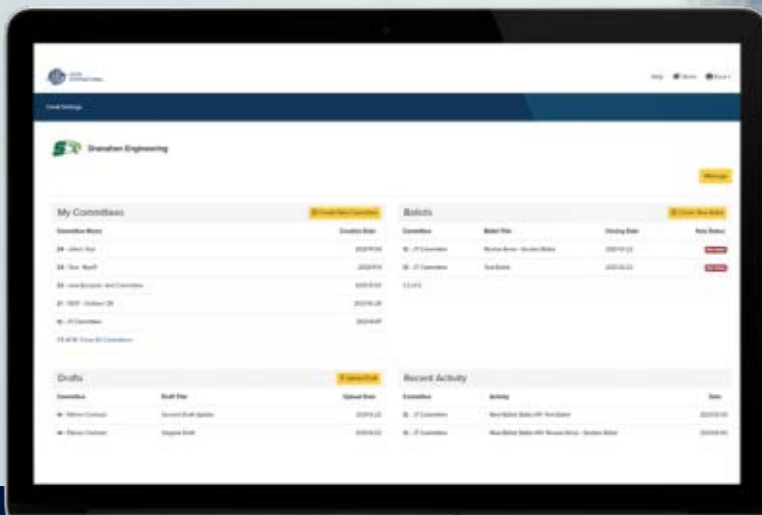
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