American Welding Society

Founded in 1919 to Advance the Science, Technology and Application of Welding

AWS 2002 Book Sale Catalog

Selected Books, Software Videos and Courses

- General References
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WHB-2.8
Welding Processes, Welding Handbook, 8th Ed., Vol. 2

Cover the spectrum of welding and cutting processes with this invaluable resource book. Experts have prepared 29 information-filled chapters on the specific processes. In addition, helpful, detailed charts, drawings and appendices are included to make this handbook a practical and indispensable reference for management, supervisory personnel, educators, welders, researchers and students. 955 pages, published in 1991. 8-1/2" x 10-1/2", softbound.

WHB-2.8 .....156.00
AWS Members 117.00

WHB-3.8
Materials and Applications - Part 1 Welding Handbook, 8th Ed., Vol. 3

This volume covers information on nonferrous metals, plastics, composites, ceramics, and new specialized topics: maintenance and repair welding and underwater welding and cutting. This 526-page, hardcover book has ten chapters including safe practices and applications, as well as weldability and applications of specific metals. Colorful figures, easy-to-read tables and an index of major subjects make this book one of the most practical tools to quickly locate the information you need. 8-1/2" x 10-1/2", published in 1996.

WHB-3.8 .....156.00
AWS Members 117.00

WHB-4.8 Materials and Applications – Part 2 Welding Handbook, 8th Ed., Vol. 4

Volume Four contains considerable expansion of information provided in previous editions. This expanded coverage has resulted in the presentation of material **never before published** by AWS. Like its predecessors, this volume of the *Welding Handbook* is the ultimate reference tool. Not only does the book come equipped with two separate indexes, but each chapter boasts its own Table of Contents. Packed with more than 500 tables, charts and photos, it will make your research efforts easier than ever. Chapters: Carbon and Low-Alloy Steels; High-Alloy Steels; Coated Steels; Tool and Die Steels; Stainless and Heat-Resisting Steels; Clad and Dissimilar Metals; Surfacing; Cast Irons; Titanium and Titanium Alloys; Reactive, Refractory, and Precious Metals and Alloys. Published in 1998. 621 pages, 8-1/2" x 10-1/2", hardbound.

WHB-4.8 .....156.00
AWS Members 117.00

WM1.4
Welding Metallurgy, 4th Ed., Vol. 1: Fundamentals

The premier publication on welding metallurgy of steels. Comprehensive and encyclopedic in scope, *Welding Metallurgy* was written by the late George E. Linnert, one of America's most respected and informed metallurgical authorities. Builders, manufacturers, welding shops, colleges and universities will benefit from this indispensable reference book. Place a lifetime of welding research and experience at your fingertips with this practical insight into the science and technology of metals. Packed with 248 figures, 62 tables, and 10 appendices. 7" x 10", 950 pages hardbound. Published in 1994.

WM1.4 .....144.00
AWS Members 108.00

AWS WELDING HANDBOOKS

WHB-1.9
Welding Science and Technology, Welding Handbook, 9th Ed., Vol. 1

Arriving in time to usher in the new century, this newest volume of the renowned *Welding Handbook* series reflects the latest developments in the field of welding — not only from regenerated processes that have benefitted from the explosions in electronic technology, but to the most current information on robotics and best practices of manual arc welding. Seventeen chapters create a true panorama of the technology that has built the 20th century. A must-have reference for engineers, metallurgists, structural designers, inspectors, and anyone who needs to understand this continuously evolving industry. 17 chapters, 2 annexes, 530 illustrations, and 168 tables. Over 650 pages, 8-1/2" x 11", hardcover. Published in 2001.

WHB-1.9 .....188.00
AWS Members 141.00

Note: For a limited time, "Welding Technology," Vol. 1, 8th Ed., of the Welding Handbook (published 1987) remains available for those wishing the complete 8th Edition.

WHB-1.8 .....88.00
AWS Members 66.00

Get all four volumes of the latest Welding Handbook Set at substantial savings. Only $408 for AWS Members; $544 for others. Use order code WHB-ALL.

Vol. 1, 9th Ed., plus Vols. 2, 3 and 4, 8th Ed.

CAN YOU APPLY THESE TERMS?

Actual throat; boxing; double arcing; welding performance qualification; initial current; liquation; oxygen lance; reactor; slugging; weave bead.

A3.0-01
Standard Welding Terms and Definitions

Add precision and clarity to your technical writing with the correct usage of welding terms. Adequate definition requires there be only one clearly applicable definition. The definition must accurately reflect the term's use in the welding world. Industry correct and nonstandard terms are both included in this 142-page compilation of over 1,200 definitions. Also includes the Master Chart of Welding and Allied Processes and the Joining Method Chart. ANSI Approved, Dept. of Defense Adopted. Illustrated with 53 drawings. Published in 2001.

A3.0-01.....120.00
AWS Members. 90.00

WELDING INSPECTION TECHNOLOGY

With 379 figures and photographs (many in full color), this newest *Welding Inspection Technology* text is more readable, informative and comprehensive than ever before. This is the official AWS textbook for the three-day core seminar for CWI exam preparation, but it's also available for direct purchase for at-home study. 338 pages, published in 2000.

WIT-T:2000.....264.00
AWS Members 198.00

WIT Workbook

90 pages, softbound companion. Published in 1999.
WIT-W-99.....64.00
AWS Members 48.00

CM-2000 Certification Manual for Welding Inspectors

Self-study to prepare for AWS welding inspector exams

An excellent reference and introduction for those interested in becoming Certified Welding Inspectors. Specifically guides those studying for the CWI examination. New, sleeker style with improved readability. This is the 4th edition of a best seller used by thousands of CWI candidates since it was first published in 1977. Veteran editor Eugene Hornberger is not only a CWI himself, but has taught the AWS exam preparatory seminar for years. He's packed this latest edition with 152 figures, 23 drawings and 8 tables, plus annexes. 11 chapters cover: the welding inspector, responsibilities, standards, joint geometry and terminology, symbols, weldability, destructive testing, procedure and welder qualification, welding/brazing/cutting processes, discontinuities, NDE, and inspector reports. Each chapter concludes with a self-administered test similar in content and style to the actual CWI exam questions. Features a contemporary layout that includes tip boxes. If you're new to welding inspection, the *Certification Manual* provides A-Z coverage. If you are planning on taking the AWS CWI exam and studying on your own, this book has been invaluable to literally thousands of CWI applicants. Softbound, published in 2000.

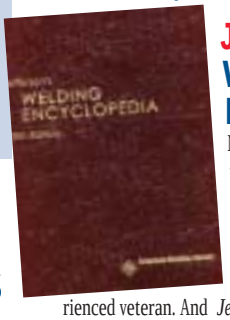
CM-2000.....168.00
AWS Members 126.00

WI:2000 Welding Inspection Handbook, 3rd Edition

The new edition supports the work of thousands of inspectors and supervisors with their increasingly stringent quality assurance responsibilities. Not too deep and not too abridged, this edition of *Welding Inspection* earns the rank of "handbook" with its no-nonsense style, clarity of detail, and logical progression of information — with chapters on: •operations •inspection •safety •QA •ferrous welding metallurgy •preheating/postweld heat treating •discontinuities •qualification of WPSs •qualification of welders •destructive testing •proof tests •NDE methods •metrics •standards •symbols

It is a reference that can be used as a training text for inspectors, engineers, and welders alike to reinforce their abilities to evaluate the difference between discontinuities and rejectable defects. 18 chapters, 16 tables, 108 figures, 244 pages, indexed. 6-1/2" x 9", softbound. 3rd edition, published in 2000.
WI:2000 .....72.00
AWS Members. 54.00

All the information necessary to compete successfully in today's welding industry.



JWE JEFFERSON'S WELDING ENCYCLOPEDIA

No matter what your involvement in the industry, *Jefferson's Welding Encyclopedia* puts the world of welding right at your fingertips. A useful tool for any level in the industry, from student to the experienced veteran. And *Jefferson's Welding Encyclopedia* isn't just for engineers. It's a handy reference for any one who needs quick access to thorough welding information. *Jefferson's Welding Encyclopedia* isn't just terms and definitions. Topics are explained, illustrated, and made comprehensible. It also includes a historical look at the welding industry, a handy Buyer's Guide, and an exhaustive listing of key industry suppliers. 8" x 10", 758 pages, color illustrations, revised and edited by Robert L. O'Brien. Published in 1997.
JWE.....172.00
AWS Members 129.00

A9.1-92 Standard Guide for Describing Arc Welds in Computerized Material Property and Nondestructive Examination Databases

Developed in cooperation with ASNT's Committee E49 on Computerization of Material Property Data. Guide is divided into two parts: weld identification and weld properties and NDE data. Data fields necessary to uniquely define an arc weld— the same data needed to produce a Procedure Qualification Record — are provided. An excellent template whether you're computerized or still using conventional methods. 9 pages, published in 1992. ANSI Approved.
A9.1-92.....32.00
AWS Members 24.00

API-M API 1104 Code Clinic Reference Manual

Official material used in the AWS field workshop offerings; suitable for in-company training or self-study. 10 chapters, each with self-test. Published in 2001.

API-M.....68.00
AWS Members 51.00

VIW-M Visual Inspection Workshop Reference Manual

Official material used in the AWS field workshop offerings; suitable for in-company training or self-study. 5 chapters, each with concluding self-tests, approximately 160 pages. 80 graphics overall. Published in 1997.

VIW-M 68.00
AWS Members 51.00

D1.6: 1999 Structural Welding Code – Stainless Steel

This code establishes the requirements for welding stainless steel using the gas metal, shielded metal, flux cored, and submerged arc welding processes, including stud welding. The code covers design, fabrication, qualification and prequalification of procedures, welding personnel qualification, and inspection. Includes 79 figures, 26 tables, and 12 annexes in 224 softbound pages. Published in 1999.

D1.6: 1999.....124.00
AWS Members 93.00

D1.4-98 Structural Welding Code – Reinforcing Steel

Fifth edition covers welding reinforcing steel in most reinforced concrete applications. Includes allowable stresses, inspection, qualification, structural details, joint details and workmanship requirements. Figures clearly illustrate important welding considerations: unacceptable weld profiles, effective weld sizes, details of joints of anchorages, base plates and inserts. 7 chapters, 9 tables, 5 annexes, 45 pages, softbound. Published in 1998. ANSI Approved/Dept. of Defense Adopted.

D1.4-98 ..... 76.00
AWS Members 57.00

D14.1-97 Specification for Welding Industrial and Mill Cranes and Other Material Handling Equipment

This extensively illustrated specification applies to the welding of all principal structural weldments and all primary welds used in the manufacture of cranes for industrial, mill, powerhouse and nuclear facilities. All provisions of this specification are equally applicable to the strengthening and repairing of existing overhead cranes and material handling equipment as described above. 52 figures, 18 tables amplify 10 sections, including "Repair and Correction of Discontinuities." Three appendices complete this 121-page document, published in 1997. ANSI Approved.

D14.1-97 ..... 64.00
AWS Members 48.00

IT'S HERE! THE 2002 EDITION OF D1.1 STRUCTURAL WELDING CODE–STEEL

D1.1/D1.1M:2002 You can't beat the 2002 *D1.1 Structural Welding Code — Steel*: It's the world's best reference for structural steel welding. New material in the 2002 edition includes: • both U.S. and metric units of measure • a new section on responsibilities of engineers, contractors and other personnel • revised sections on design of welded connections, limits of fillet weld length, definition of T-joints, and fatigue limits of weld and joint types • new data on through-thickness base metal loading • clarification on matching filler metals to construction materials • guidelines for Charpy V-notch testing and commentary on ultrasonic testing. Engineers, architects and fabricators depend on this book to ensure integrity of welded steel structures. ANSI Approved, Dept. of Defense Adopted. Expanded to 542 pages, softbound.

D1.1/D1.1M:2002.....$344.00
AWS Members $258.00

Also Available as a CD-Rom (see p. 12).

D1.3-98 Structural Welding Code – Sheet Steel

"One of the primary objectives of this code is to define the allowable capacities used in sheet steel applications in which the transfer of calculated load occurs." If you're responsible for the welding of steel decks, panels, storage racks, and stud and joist framing members, to name a few applications, this code helps you to perform consistently sound welding of joints. Includes allowable load capacities, details of welded connections, pre-qualification of WPSs, qualification, inspection, stud welding. 7 tables, 44 figures, 5 annexes and Commentary. 76 pages, softbound. ANSI Approved and published in 1998. Department of Defense Adopted.

D1.3-98 ..... 92.00
AWS Members 69.00

D1.2-97 Structural Welding Code – Aluminum

This code set the rules and regulations necessary for welding structural aluminum using the gas metal arc, gas tungsten arc, and plasma arc welding processes, as well as stud welding and plasma arc gouging, in dynamically loaded or statically loaded nontubular structures as well as tubular structures. Secure this first major revision since 1990 of the D.O.D. adopted, 224-page standard. Developed under strict American National Standards Institute rules, *Structural Welding Code – Aluminum* includes sections on Fabrication, Qualification of WPSs and Personnel and Inspection. ANSI Approved, Dept. of Defense Adopted. Published in 1997, 25 tables, 53 figures, 10 annexes as well as commentary organized by subject.

D1.2-97 .....124.00
AWS Members 93.00

NEW D15.1:2001 Railroad Welding Specification–Cars and Locomotives

To answer the need for an authoritative source, this specification was produced by all segments of the railroad industry, including both users and suppliers, the general public, and representatives from the Association of American Railroads. Coverage includes welding metal 1/8 in.+ in thickness, specific requirements for welding railroad cars, and the requirements for the manufacturing and reconditioning of locomotives and passenger train vehicles. 386 pages with 8 appendices (including base metal groups and filler metal classifications), 41 tables, 22 metric tables, 91 figures, 64 metric figures. Published in 2001. ANSI Approved.

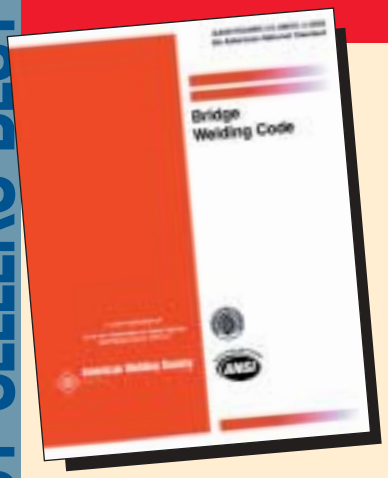
D15.1:2001 .....180.00
AWS Members 135.00

HST Hands-On, Self-Training

Package includes *Visual Inspection Workshop Reference Manual*, Welding Inspector's Professional Quality Tool Kit, *Guide for Visual Examination of Welds* and *Guide for Nondestructive Examination of Welds*.

HST 384.00
AWS Members 288.00

BRAND NEW EDITION!
2002 BRIDGE WELDING CODE



New Edition Highlights:

- Implementation of U.S. Customary Units
- Provisions for undermatching electrode usage
- Added commentary section
- New requirements for the modified WPS qualification tests

Get the latest facts and code requirements for bridge building with carbon and low-alloy construction steels.

The American Welding Society has released the latest version of the D1.5 *Bridge Welding Code*, outlining requirements of the American Association of State Highway and Transportation Officials (AASHTO) for building highway bridges made from carbon and low-alloy construction steels. Chapters cover inspection, qualification, structural details, stud welding, welded joint details, workmanship and more. This new edition features the latest AASHTO revisions and NDE requirements, as well as a section providing a "Fracture Control Plan for Nonredundant Bridge Members." The 250-page ANSI-approved document contains 35 tables, 77 figures, and several annexes. Welding and construction professionals and designers will find this book essential for all forms of bridge work.

D1.5M/D1.5: 2002 .....180.00
AWS Members 135.00

Updated to meet today's tough quality requirements

B1.11:2000 Guide for the Visual Examination of Welds

Here's the first update of this AWS guidebook in a decade with 48 photos and figures that sharply focus the characteristics of porosity, incomplete fusion, undercut, laminations, cracks, spatter, melt-through and other discontinuities. **ANSI Approved**. 33 pages.

B1.11:2000.....96.00
AWS Members.....72.00

B1.10:1999 Guide for the Nondestructive Examination of Welds

Tells you which NDE method is best for detecting categories of discontinuities and defects. **ANSI Approved**. 48 pages.

B1.10:1999.....96.00
AWS Members.....72.00

D9.1M/D9.1:2000
Sheet Metal Welding Code

Thanks to the AWS D9 Committee on Welding, Brazing and Soldering of Sheet Metal, this popular code is improving workmanship to a 21st century level. Covers the arc and braze welding requirements for nonstructural sheet metal fabrications. Includes process procedure qualification; welder/operator performance qualification; workmanship; and inspection. Annexes include recommended filler materials; gauge numbers and U.S. Customary and SI Unit equivalents; WPS and PQR forms; arc and braze welding joint designs; recommended arc and recommended braze welding practices. 10 tables, 8 figures, 11 annexes, 56 pages, published in 2000. ANSI Approved.

D9.1M/D9.1:2000.....72.00
AWS Members.....54.00

Finally — a unifying standard for the aerospace and aircraft industry

D17.1:2001
Specification for Fusion Welding for Aerospace Applications

This revolutionary document represents the most significant change to aviation welding standards in more than 30 years, including coverage in three areas never addressed in MIL-STDs: design, repair and nonflight hardware. And, for the first time, there are authoritative procedures for weld repair of in-service (existing) aerospace flight hardware. In fact, the standard's use of weld repair technology enables weld overhaul beyond the areas originally designated for a weld.

The excellent coverage on inspection is bolstered with information to avoid both under- and over-inspection, arising from the D17 Committee's position that, "Choosing acceptance criteria beyond the capability of the welding process may lead to numerous inspection rejections, increasing costs." To help, tables on acceptance criteria (one in U.S. Customary units, the other in metric) have been included with distinctions for Class A, B, and C welds.

D17.1:2001 emphasizes, but is not limited to, fusion welding of aluminum-based, nickel-based, iron-based, cobalt-based, magnesium-based and titanium-based alloys using electric arc and high energy beam processes.

78 pages, 14 tables, 47 figures, 5 annexes, including "Guidelines for Design, Analysis, and Fabrication of Weld Joints," and Commentary. Metric (SI) equivalents provided. ANSI Approved. Published in 2001.

D17.1:2001 .....112.00
AWS Members 84.00

Welding Procedure Specifications

TRIAL AND ERROR WELDING IS TIME-CONSUMING, EXPENSIVE, AND DIFFICULT TO FINE TUNE. AWS STANDARD WPSs DO THE QUALIFYING WORK FOR YOU.

BASE METAL	FORM	PROCESS	THICKNESS	FILLER METAL	CONDITION	ORDER NO.
Aluminum	Sheet Metal	GTAW	10 to 18 gauge	None	As-Welded, With or Without Backing	B2.1-22-015
Stainless Steel	Pipe or Plate	SMAW	1/8" – 1-1/2"	E3XX-XX	As-Welded	B2.1-8-023
Stainless Steel	Pipe or Plate	GTAW	1/8" – 1-1/2"	ER3XX	As-Welded	B2.1-8-024
Stainless Steel	Pipe or Plate	GTAW followed by SMAW	1/8" – 1-1/2"	ER3XX and E3XX-XX	As-Welded	B2.1-8-025
Stainless Steel	Pipe	GTAW	1/8" – 1-1/2"	ER3XX	As-Welded	B2.1-8-212
Stainless Steel	Pipe	SMAW	1/8" – 1-1/2"	E3XX-XX	As-Welded	B2.1-8-213
Stainless Steel	Pipe	GTAW followed by SMAW	1/8" – 1-1/2"	ER3XXX and E3XX-XX	As-Welded	B2.1-8-214
Stainless Steel	Pipe	GTAW	1/8" – 1-1/2"	IN3XX and ER3XX	As-Welded	B2.1-8-215
Stainless Steel	Pipe	GTAW followed by SMAW	1/8" – 1-1/2"	IN3XX and E3XX	As-Welded	B2.1-8-216
Stainless Steel	Sheet Metal	GMAW	10 to 18 gauge	ER3XX	As-Welded, With or Without Backing	B2.1-8-005
Stainless Steel	Sheet Metal	GTAW	10 to 18 gauge	ER3XX	As-Welded, With or Without Backing	B2.1-8-009
Stainless Steel	Sheet Metal	SMAW	10 to 18 gauge	E3XX-XX	As-Welded, With or Without Backing	B2.1-8-013
Stainless to Carbon Steel	Sheet Metal	GMAW	10 to 18 gauge	ER309	As-Welded, With or Without Backing	B2.1-1/8-006
Stainless to Carbon Steel	Sheet Metal	GTAW	10 to 18 gauge	ER309	As-Welded, With or Without Backing	B2.1-1/8-010
Stainless to Carbon Steel	Sheet Metal	SMAW	10 to 18 gauge	ER309	As-Welded, With or Without Backing	B2.1-1/8-014
Carbon Steel	Pipe or Plate	SMAW	3/16" -- 7/8"	E7018	As-Welded, With or Without Backing	B2.1.001
Carbon Steel	Pipe or Plate	SMAW	1/8" – 1-1/2"	E7018	As-Welded or PWHT	B2.1-1-016
Carbon Steel	Pipe or Plate	SMAW	1/8" – 1-1/2"	E6010	As-Welded or PWHT	B2.1-1-017
Carbon Steel	Pipe or Plate	GTAW followed by SMAW	1/8" – 1-1/2"	ER70S-2 and E7018	As-Welded or PWHT	B2.1-1-021
Carbon Steel	Pipe or Plate	SMAW	1/8" – 1-1/2"	E6010* and E7018	As Welded or PWHT	B2.1-1-026
Carbon Steel	Pipe	SMAW	1/8" – 3/4"	E6010 and E7018	As Welded	B2.1-1-201
Carbon Steel	Pipe	SMAW	1/8" – 3/4"	E6010* and E7018	As Welded	B2.1-1-202
Carbon Steel	Pipe	SMAW	1/8" – 3/4"	E6010	As Welded	B2.1-1-203
Carbon Steel	Pipe	SMAW	1/8" – 3/4"	E6010*	As Welded	B2.1-1-204
Carbon Steel	Pipe	SMAW	1/8" – 1-1/2"	E6010 and E7018 (Vertical up root)	As Welded or PWHT	B2.1-1-205
Carbon Steel	Pipe	SMAW	1/8" – 1-1/2"	E6010 and E7018 (Vertical down root)	As Welded or PWHT	B2.1-1-206
Carbon Steel	Pipe	GTAW	1/8" – 1-1/2"	ER70S-2	As-Welded or PWHT	B2.1-1-207
Carbon Steel	Pipe	SMAW	1/8" – 1-1/2"	E7018	As-Welded or PWHT	B2.1-1-208
Carbon Steel	Pipe	GTAW followed by SMAW	1/8" – 1-1/2"	ER70S-2 and E7018	As-Welded or PWHT	B2.1-1-209
Carbon Steel	Pipe	GTAW, consumable inserts	1/8" – 1-1/2"	INMs-1 and ER70S-2	As-Welded or PWHT	B2.1-1-210
Carbon Steel	Pipe	GTAW/SMAW, consum. inserts	1/8" – 1-1/2"	INMs-1 and E7018	As-Welded or PWHT	B2.1-1-211
Carbon Steel	Pipe or Plate	SMAW	1/8" – 1-1/2"	E6010 and E7018	As-Welded or PWHT	B2.1-1-022
Carbon Steel	Pipe or Plate	FCAW, Self-Shielded	1/8" – 1-1/2"	E71T-8	As-Welded	B2.1-1-018
Carbon Steel	Pipe or Plate	FCAW, Self-Shielded	1/8" – 1/2"	E71T-11	As-Welded	B2.1-1-027
Carbon Steel	Pipe or Plate	FCAW, CO_2 Gas-Shielded	1/8" – 1-1/2"	E70T-1 and E71T-1	As-Welded	B2.1-1-019
Carbon Steel	Pipe or Plate	FCAW, Ar-CO_2 Gas-Shielded	1/8" – 1-1/2"	E70T-1 and E71T-1	As-Welded or PWHT	B2.1-1-020
Carbon Steel	Pipe or Plate	GTAW	3/16" - 7/8"	E70S-2	As-Welded, With or Without Backing	B2.1.002
Galvanized Carbon Steel	Sheet Metal	GMAW	10-18 gauge	E70S-6	As-Welded, With or Without Backing	B2.1-1-003
Carbon Steel	Sheet Metal	GMAW	10-18 gauge	E70S-6	As-Welded, With or Without Backing	B2.1-1-004

**Downhill root pass. All other vertical position passes are uphill. WPSs printed in red are adopted by ASME Section IX.*

Welding Procedure Specifications

BASE METAL	FORM	PROCESS	THICKNESS	FILLER METAL	CONDITION	ORDER NO.
Galvanized Carbon Steel	Sheet Metal	GTAW	10-18 gauge	E70S-2 or 3	As-Welded, With or Without Backing	B2.1-1-007
Carbon Steel	Sheet Metal	GTAW	10-18 gauge	E70S-2 or 3	As-Welded, With or Without Backing	B2.1-1-008
Galvanized Carbon Steel	Sheet Metal	SMAW	10-18 gauge	E6010 or E6013	As-Welded, With or Without Backing	B2.1-1-011
Carbon Steel	Sheet Metal	SMAW	10-18 gauge	E6010 or E6013	As-Welded, With or Without Backing	B2.1-1-012
Cr-Mo steel	Pipe	GTAW	1/8" – 3/4"	ER80S-B2	As-Welded or PWHT **	B2.1-4-217
Cr-Mo steel	Pipe	SMAW	1/8" –1-1/2"	E8018-B2	As-Welded or PWHT **	B2.1-4-218
Cr-Mo steel	Pipe	GTAW followed by SMAW	1/8" –1-1/2"	ER80S-B2 and E8018-B2	As-Welded or PWHT **	B2.1-4-219
Cr-Mo steel	Pipe	GTAW	1/8" –1-1/2"	IN515, ER80S-B2	As-Welded or PWHT **	B2.1-4-220
Cr-Mo steel	Pipe	GTAW (insert) followed by SMAW	1/8" –1-1/2"	IN515, ER80S-B2, and E8018-B2	As-Welded or PWHT **	B2.1-4-221
Cr-Mo steel	Pipe	GTAW	1/8" – 3/4"	ER90S-B3	As-Welded or PWHT **	B2.1-5A-222
Cr-Mo steel	Pipe	SMAW	1/8" –1-1/2"	E9018-B3	As-Welded or PWHT **	B2.1-5A-223
Cr-Mo steel	Pipe	GTAW followed by SMAW	1/8" –1-1/2"	ER90S-B3 and E9018-B3	As-Welded or PWHT **	B2.1-5A-224
Cr-Mo steel	Pipe	GTAW, consumable insert	1/8" –1-1/2"	IN521 and ER90S-B3	As-Welded or PWHT **	B2.1-5A-225
Cr-Mo steel	Pipe	GTAW (insert) followed by SMAW	1/8" –1-1/2"	IN521, ER90S-B3 and E9018-B3	As-Welded or PWHT **	B2.1-5A-226

**≤1/2" As-Welded or PWHT. >1/2", PWHT.

AWS publishes *Standard Welding Procedure Specifications* (SWPSs). These specifications were prepared by the Welding Procedures Committee of the Welding Research Council, and are balloted through the AWS standards development program as American National Standards. Standard WPSs may be used on work covered by the AWS D1.1 *Structural Welding Code — Steel*, the *National Board Inspection Code*, ASME *Boiler and Pressure Vessel Code*, as well as in general fabrication work. Your license is good for unlimited intracompany distribution.

The one-time AWS SWPS user-license fee is $180 ($240 for nonmembers). Refer to license order number.

FMPK: 2000
Filler Metal Comparison Charts and CD-ROM

Get the working knowledge you need:

There are thousands of filler metal products, each with a distinctive trade name — ***most*** conforming within AWS' filler metal classifications. In the marketplace, right now. You need the ultimate guide — the 2000 edition of *Filler Metal Comparison Charts.*

FMC: 2000

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PRGT Practical Reference Guide to Welding Titanium

Are you hesitant about specifying titanium? If so, this new guide dispels the weldability myths.

In 11-pages, it succinctly makes short work of negative perceptions about welding this versatile metal. Topics include backing gas shielding, chambers, joint design, equipment, consumables, filler metal transfer, and special welding conditions for GTAW, GMAW, PAW, electron and laser beam welding, and resistance welding. Five handy tables. Compiler/editor Eugene Hornberger used sources from AWS, TWI and NASA, and the review and advice of the International Titanium Association, to produce this Guide. 11 pages, softbound. Published in 1999.

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- Stud Arc Welding

B2.1 GIVES COMPLETE COVERAGE OF:
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FSW Fire Safety in Welding and Cutting

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Spanish language version of Arc Welding Safely (AWS). Published in 1988, 9 pages.
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A9.1-92 Standard Guide for Describing Arc Welds in Computerized Material Property and Nondestructive Examination Databases

Developed in cooperation with ASNT's Committee E49 on Computerization of Material Property Data. Guide is divided into two parts: weld identification and weld properties and NDE data. Data fields necessary to uniquely define an arc weld— the same data needed to produce a Procedure Qualification Record — are provided. An excellent template whether you're computerized or still using conventional methods. 9 pages, published in 1992. ANSI Approved.
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A9.2-92 Standard Guide for Recording Arc Weld Material Property and Nondestructive Examination Data in Computerized Databases

Companion to A9.1-92 providing the balance of information necessary to completely document your welding by formatting the fields and types of mechanical property and NDE data that should be entered into a weld property database. Search, retrieve and duplicate successful combinations. Excellent document for computerized and noncomputerized operations. 7 pages, published in 1992. ANSI Approved.
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C3.3:2002
Recommended Practices for the Design, Manufacture, and Examination of Critical Brazed Components

This standard lists the necessary steps to assure the suitability of brazed components for critical applications. Although such applications vary widely, they have certain common considerations with respect to materials, design, manufacture, and inspection. It is the intent of this document to identify and explain these common considerations and the best techniques for dealing with them. It is beyond the scope of this document to provide specific details on these techniques, which the user must adapt to fit each particular application. Page count: 32.
C3.3:2002: $60.00
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D8.9M:2002
Recommended Practices for Test Methods for Evaluating the Resistance Spot Welding Behavior of Automotive Sheet Steel Materials

This document presents recommended practices for evaluating the resistance spot welding behavior of automotive sheet steels. The document contains a number of tests and test methods useful in determining the spot welding performance of coated and uncoated automotive sheet steels of all strength levels and compositions. The test methods are designed to assess current range, electrode endurance, and weld properties of automotive sheet steels. The weld property tests include measurement of hold time sensitivity, weld hardness, shear-tension strength, and cross-tension strength. The document and the test methods, parameters, and test criteria it contains are designed exclusively for laboratory testing and are not intended as recommended practices or standards for manufacturing operations. Page count: 78.
D8.9M:2002: $64.00
Member price: $48.00

PRGWA
The Practical Reference Guide to Welding Aluminum in Commercial Applications

Written by Frank Armao, Group Leader, Nonferrous Applications, The Lincoln Electric Co., this is the sixth topic in this AWS series. Armao, who serves on the AWS D1G Subcommittee on Aluminum Structures, called on other D1G members for review, with results like the following: "This is an excellent document and it will be very useful to the industry."
With an emphasis on the practices that are both common and effective in high-volume situations, the publication covers mechanical properties of aluminum affected by welding; alloy and temper designations; filler metal selection; pre-welding preparation; GTAW, GMAW, and SMAW; defects; and problems in qualifying welding procedures. 14 tables, 24 figures, 38 pages. 8-1/2 x 11, softbound. Published in 2002.
PRGWA 44.00
AWS Members 33.00

D1.5M/D1.5:2002
Bridge Welding Code

Published in partnership with the American Association of State Highway and Transportation Officials, this code addresses AASHTO needs for welded highway bridges made from carbon and low-alloy constructional steels. This latest edition, with all dimensions in metric SI units, reflects the newest AASHTO revisions and NDE requirements. Chapters cover inspection, qualification, structural details, stud welding, welded joint details, workmanship and more, with added commentary. This latest edition includes the section "Fracture Control Plan for Nonredundant Bridge Members." It also reflects a reduction in required testing to qualify a WPS. 250 pages with 35 tables, 77 figures and several annexes, 8-1/2" x 11" softbound, 3-hole punched. ANSI Approved. Published in 2002. (all metric).
D1.5M/D1.5: 2002 .....180.00
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C3.2M/C3.2:2002
Standard Method for Evaluating the Strength of Brazed Joints

A standardized single-lap shear brazed specimen was developed as the result of interlaboratory testing program. Additional test specimens have been added to obtain braze strength data in butt tension, stress rupture, creep strength, and four-point bending. Specimen preparation methods, brazing procedures testing techniques, and methods for data analysis are detailed. Sample forms for recording data are presented. A graphical method of data presentation relates shear stress to overlap distance. Page Count: 30
C3.2M/C3.2:2002: $60.00
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B5.14:2002
Specification for the Qualification of Welding Sales Representatives

This specification defines the requirements for qualification of Welding Sales Representatives employed in the welding industry. The typical functions, required education and experience, examination requirements, requalification, and suggested reference material are defined. Page Count: 12.
B5.14:2002: $24.00
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C4.2:2002
Operator's Manual for Oxyfuel Gas Cutting

New, revised manual includes the latest procedures to be used in conjunction with oxyfuel gas cutting equipment. The manual also includes the latest safety requirements. Complete lists of equipment are available from individual manufacturers. Page Count: 36.
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A4.4M:2001
Standard Procedures for Determination of Moisture Contents of Welding Fluxes and Welding Electrode Flux Coverings

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D16.2/D16.2M:2001
Guide for Components of Robotic and Automatic Arc Welding Installations

Provides performance recommendations for evaluating components of a typical robotic or automatic welding installation. Emphasis is placed on the role of the welding interface. A pin arrangement and specific pin function for each location in a standardized 37–pin connector are proposed. Page Count: 24
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D15.1:2001,
Railroad Welding Specification – Cars and Locomotives.

This specification establishes minimum standards for the manufacture and maintenance of railroad equipment. Part I covers the general requirements for welding in the railroad industry. Part II covers specific requirements for the welding of base metals thinner than 1/8 in. (3.2mm). Page Count: 386
D15.1:2001: $180.00
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Aluminum – a metal that is misunderstood and underrated!

PRGQA The Practical Reference Guide for High Quality Fusion Welding of Aluminum

If you need X-ray-quality aluminum welds, then you need this newest title in The Practical Reference Guide series. Written by Bob Schneider, Jr., author of "The Eagle Has Landed'…with a Little Help from Welding," this crisp, succinct publication is meant to help engineers, designers, and technicians. It is step-by-step directions in proper use of cleaning tools, assembling, welding procedures. Here's an example: "Abrupt changes in weld bead height such as the termination of a weld bead over a previous weld pass should be sloped by grinding with a clean router and vacuumed prior to continuing the weld pass." The modus operandi here is cleanliness leads to highest quality. 18 pages with photos and illustrations. Published in 2001.
PRGQA 44.00
AWS Members 33.00

C2.25/C2.25M:2002
Specification for Thermal Spray — Solid and Composite Wire and Ceramic Rods

This specification provides the as-manufactured chemical composition classification requirements for solid and composite wires and ceramic rods for thermal spraying. Requirements for standard sizes, marking, manufacturing, and packaging are included. Page count: 26.
C2.25/C2.25M2002: $44.00
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