2010 ASME Boiler and

Pressure Vessel Code with Addenda

AN INTERNATIONAL CODE

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The 2010 ASME Boiler and Pressure Vessel Code with Addenda Setting the Standard in Design, Engineering and Care

The ASME Boiler and Pressure Vessel Code (BPVC) establishes rules of safety governing the design, fabrication, and inspection of boilers and pressure vessels, and nuclear power plant components during construction. The objective of the rules is to provide a margin for deterioration in service.

Advancements in design and material, and the evidence of experience, are constantly being added. Further value is added for BPVC purchasers through ASME's ongoing conformity-assessment programs, referenced and related standards, training courses, technical publications, and industry conferences.

Serving the Public for over 90 Years

Originating in 1914, the BPVC is now adopted, in part or in its entirety, by all 50 states and numerous municipalities and territories of the United States, and by all 10 provinces of Canada. More than 92,000 copies of the BPVC are in use in 100 countries around the world, with translations in a number of languages.

The BPVC is "An International Historic Mechanical Engineering Landmark," widely recognized as a model for codes and standards worldwide. Its development process remains open and transparent throughout, yielding "living documents" that have improved public safety and facilitated trade across global markets and jurisdictions for nearly a century.

Current and "LIVE"

The BPVC is kept current by the Boiler and Pressure Vessel Committee, a volunteer group of more than 950 engineers, regulators and technical experts. The Committee meets regularly to consider requests for interpretations, revisions, and to develop new rules. Its activities culminate in a new edition of the BPVC every three years.

In the formulation of its rules and in the establishment of maximum design and operating pressures, the Committee considers technological advances including materials, construction, methods of fabrication, inspection, certification, and overpressure protection. The results reflect the best practices of industry, while continuing to improve safety for the general public.

"We're helping people. We're trying to provide safe environments for people to live in."

- Richard W. Barnes Senior Engineer Anric Enterprises, Inc.

go.asme.org/bpvc10



The 2010 ASME Boiler and Pressure Vessel Code with Addenda Improving Public Safety and Facilitating Global Trade

Section I- Power Boilers

Has rules for construction of power, electric, and miniature boilers; high temperature water boilers for stationary service; and power boilers for locomotive, portable, and traction service. Spanishlanguage version is now available.

Section II - Materials:

Section II Part A -

Ferrous Material Specifications

Provides material specifications for ferrous materials adequate for safety for pressure equipment. Includes requirements for mechanical properties, test specimens, and methods of testing.

Section II Part B -

Nonferrous Material Specifications

Provides material specifications for nonferrous materials adequate for safety for pressure equipment, including requirements for mechanical properties, test specimens, & methods of testing.

Section II Part C – Specifications for Welding Rods, Electrodes and Filler Metals

Has material specifications for manufacture, acceptability, testing requirements and procedures, operating characteristics, and intended uses for welding rods, electrodes and filler metals.

Section II Part D - Properties (Customary)

A service Code for reference by boiler and pressure vessel construction Codes having tables of design stress, tensile and yield strength values, and tables and charts of material properties.

Section II Part D – Properties (Metric)

A service Code for reference by boiler and pressure vessel construction Codes having tables of design stress, tensile and yield strength values, and tables and charts of material properties.

Section III - Rules for Construction of Nuclear Facility Components:

Section III Subsection NCA – General Requirements for Division 1 and Division 2

Contains the glossary and rules pertaining to Duties and Responsibilities, design documentation, quality assurance, Authorized Nuclear Inspection and the use of Code symbol stamps.

Section III Division 1 Subsection NB – Class 1 Components

Contains requirements for assuring the structural integrity of Class 1 items - materials, design, fabrication, examination, testing and overpressure protection.

Section III Division 1 Subsection NC – Class 2 Components

Contains requirements for assuring the structural integrity of Class 2 items material, design, fabrication, examination, testing and overpressure protection.

Section III Division 1 Subsection ND – Class 3 Components

Contains requirements for assuring the structural integrity of Class 3 items - material, design, fabrication, examination, testing and overpressure protection.

Section III Division 1 Subsection NE – Class MC Components

Contains requirements for assuring the structural integrity of Class MC items material, design, fabrication, examination, testing and overpressure protection.

Section III Division 1 Subsection NF – Supports

Contains requirements for material, design, fabrication, and examination of metal supports designed to transmit loads from the components or piping to the building structure.

Section III Division 1 Subsection NG – Core Support Structures

Contains requirements for material, design, fabrication, and examination for structures that directly support or restrain the core within the reactor pressure vessel.

Section III Division 1 Subsection NH – Class 1 Components in Elevated Temperature Service

Contains requirements for material, design, fabrication, examination, testing and overpressure protection of Class 1 items when temperatures exceed those covered by Subsection NB.

Section III Division 1 - Appendices

Contains appendices, both mandatory and nonmandatory for Section III, Divisions 1 and 2, including a listing of design and design analysis methods, information, and Data Report Forms.

Section III Division 2 – Code for Concrete Reactor Vessels and Containments

Contains requirements for material, design, construction, fabrication, testing, examination, and overpressure protection of concrete vessels and concrete containment structures.

Section III Division 3 -

Containment Systems and Transport Packaging for Spent Nuclear Fuel and High Level Radioactive Waste

Requirements for the design and construction of the containment system of a nuclear spent fuel or high level radioactive waste transport packaging.

Section III Division 5 -

High Temperature Reactors

Construction rules for high-temperature reactors, including both gas-cooled reactors and liquid-metal reactors.

Section IV - Heating Boilers

Provides rules for design, fabrication, installation and inspection of steam generating boilers, and low pressure hot water boilers that are directly fired by oil, gas, electricity, or coal.

Section V - Nondestructive Examination

Contains radiographic, ultrasonic and liquid penetrant methods required by other Code Sections, which detect discontinuities in materials, welds, and fabricated parts and components.

Section VI - Recommended Rules for the Care and Operation of Heating Boilers

Has guidelines applicable to steel and cast iron boilers within the operating range for Section IV Heating Boilers, including associated controls and automatic fuel burning equipment.

Section VII - Recommended Guidelines for the Care of Power Boilers

Has guidelines applicable to stationary, portable, and traction type boilers within the operating range for Section I Power Boilers, to assist operators in maintaining plant safety.

Section VIII - Pressure Vessels:

Section VIII Division 1

Provides requirements for design, fabrication, inspection, testing, and certification of fired or unfired pressure vessels operating at pressures exceeding 15 psig.

Section VIII Division 2 – Alternative Rules Has requirements for construction and certification of pressure vessels operating at pressures over 15 psig using design by analysis methods, and design stresses higher than Division 1.

Section VIII Division 3 – Alternative Rules for the Construction of High Pressure Vessels

Provides requirements applicable to the design, fabrication, inspection, testing, and certification of pressure vessels operating at either internal or external pressures above 10,000 psi.

Section IX - Welding and Brazing Qualifications

Has rules for qualification of welding and brazing procedures and welders, brazers, and welding and brazing operators for component manufacture. Data cover variables for the process used.

Section X - Fiber-Reinforced Plastic Pressure Vessels

Has requirements for construction of an FRP pressure vessel including production, processing, fabrication, inspection and testing methods required for two Classes of vessel design.

Section XI - Rules for Inservice Inspection of Nuclear Power Plant Components

Provides rules for the examination, inservice testing and inspection, and repair and replacement of components and systems in light water and liquid metal cooled nuclear power plants.

Section XII - Rules for Construction and Continued Service of Transport Tanks

Covers construction and continued service of pressure vessels for transportation of dangerous goods by highway, rail, air or water at pressures up to 3,000 psig and volumes over 120 gallons.

Code Cases:

Code Cases: Boilers and Pressure Vessels Provided when the need is urgent, such as: rules for materials or constructions not covered by existing Code rules.

Code Cases: Nuclear Components

Provided when the need is urgent, such as: rules for materials or constructions not covered by existing Code rules.

For additional information and to order:

Phone: 1.800.843.2763 Email: infocentral@asme.org Website: go.asme.org/bpvc10

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Build your BPVC reference library

Master The Code...

Referenced BPVC Sections

Individual BPVC Sections often reference other BPVC Sections, typically:

- Section II, Parts A-B-D (Materials)
- Sections IX and II, Part C (Welding)
- Section V (Nondestructive Examination)

That's why savvy users purchase the complete BPVC and save!

Referenced Standards

Individual BPVC Sections often reference other ASME Standards, typically:

- B1 series (Screw Threads)
- B16 series (Valves, Flanges, Fittings, and Gaskets)
- B18 series (Fasteners)
- B31.1-2010 Power Piping
- B36 series (Steel Pipes)
- NQA-1-2008, Quality Assurance Requirements for Nuclear Facility Applications
- CSD-1-2009 Controls and Safety Devices for Automatically Fired Boilers
- PTC 25--2008 Pressure Relief Devices
- QAI-1-2010 Qualifications for Authorized Inspection

Purchasers of the complete BPVC will want to have all 36 documents readily at hand in their corporate or departmental libraries.

Related Standards & Guidelines

Several related ASME Standards & Guidelines have proven popular with BPVC purchasers, notably:

- B31.3-2010 Process Piping
- B31.8S-2010 Managing System Integrity of Gas Pipelines
- FFS series (Fitness-for-Service)
- PTB-1-2009 ASME Section VIII Division 2
 Criteria and Commentary
- PTB-2-2009 Guide to Life Cycle
 Management of Pressure Equipment
 Integrity

These documents, plus 26 others, govern key processes common to various BPVC purchasers.

"ASME Codes and Standards are central to the safety, the integrity, of nuclear power plant equipment."

- J.R. Sims Senior Engineering Fellow Becht Engineering Co., Inc.



Capitalize on BPVC career resources

Master your Profession...

Training Courses

ASME offers 41 BPVC-related training courses in three convenient formats – live classes, online, and CD-ROM – including:

- Section III Fundamentals
- Section III, Division 1: Rules for Construction of Nuclear Facility Components
- Nondestructive Examination: Applying ASME Code Requirements (Section V)
- Section VIII Div. 1 Design & Fabrication of Pressure Vessels
- Section VIII, Division 2 Pressure Vessels
- Section IX Welding & Brazing Qualifications
- Section XI: In-service Inspection of Nuclear Power Plant Components
- Quality Assurance (QA) Considerations for New Nuclear Facility Construction
- API 579-1/ASME FFS-1 Fitness
 for Service
- B31.1 Power Piping Design and Fabrication
- B31.3 Process Piping Design

Our expert instructors typically serve on ASME code-development committees, so you gain unrivalled insight into the BPVC, along with the professional quality and real-world applications you've come to expect from ASME.

ASME Press Books

ASME Press enlists code-development experts to bring the BPVC to life.

- Companion Guide to the ASME Boiler & Pressure Vessel Code, Third Edition, Volumes 1, 2 & 3, edited by K.R. Rao
- Guidebook for the Design of ASME Section VIII Pressure Vessels, Third Edition, by James R. Farr and Maan H. Jawad
- Pipe Stress Engineering, by Liang-Chuan Peng and Tsen-Loong Peng

These definitive titles, plus eight others of direct BPVC relevance, provide in-depth explanations and insights for real-world problem-solving.

Personnel Certification

Savvy plant managers get their personnel ASME-certified:

- QFO Certification of High Capacity Fossil Fuel Fired Plant (Boiler) Operators
- QRO Certification for the Municipal Solid Waste Combustion Facilities Operators

They demonstrate to area regulators the proficiency of their operators to a federally-endorsed national standard, while benchmarking their own training processes for optimal effectiveness.

To learn more and apply, visit:

www.asme.org/kb/standards/ certification--accreditation/ personnel-certification



Keep current with BPVC developments

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Journals

ASME maintains the premier, peerreviewed journals on three topics of direct BPVC relevance:

- Journal of Pressure Vessel Technology
- Journal of Engineering for Gas Turbines and Power
- Journal of Turbomachinery

These titles present the highest-quality research and interpretative reports in their fields.

Conferences & Related Proceedings

ASME produces three international events popular among various BPVC users:

- ASME Pressure Vessels and Piping Conference (PVP)
- ICONE International Conference on Nuclear Engineering
- ASME Turbo Expo: Power for Land, Sea and Air

Unable to attend? Then purchase the printed proceedings from recent or past conferences.

ASME Standards Technology, LLC

Thanks to ASME Standards Technology, LLC, an independent research-anddevelopment arm, code-development can now proceed in tandem with emerging technologies – thus assisting in commercialization.

- STP-PT-006 Design Guidelines for Hydrogen Piping and Pipelines
- STP-PT-011 Integrity Management of Stress Corrosion Cracking in Gas Pipeline High Consequence Areas
- STP-PT-002 ASME Section I Power Boilers - PED Guide: Supplement to Guide for ASME Stamp Holders Use of Section I to Meet EC Pressure Equipment Directive (97/23/EC)

These documents, plus others, present twenty-four BPVC-related projects on the cutting edge.

For additional information and to order:

Phone: 1.800.843.2763 Email: infocentral@asme.org Website: go.asme.org/bpvc10

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RELATED ASME OFFERINGS - INSPECTION AND MARKET MASTERY - PRODUCT CERTIFICATION PACKAGES

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Product Certifications

More than 5,800 manufacturers in 75 nations have been certified by ASME and authorized to apply the ASME Code Symbol Stamps on their products. Regulators and purchasers throughout the world look for the ASME stamp as a mark of excellence.

To learn more and apply, visit: www.asme.org/kb/standards/certification---accreditation /product-certification

Product Certification Packages

ASME Product Certification requires applicants to maintain copies of the relevant BPVC Sections and Standards.

For your convenience, ASME assembles these printed materials into the following "packages."

Code Books Required for Use with ASME Code Symbol Stamps

Note: For books other than the Boiler & Pressure Vessel Code (B31.1, PTC 25, NQA-1), the required edition as of January 1, 2010 is listed. The specific effective Addenda will be referenced in the applicable Boiler and Pressure Vessel Code section. Later editions of these referenced books will be required if and when referenced by the applicable Boiler and Pressure Vessel Code section.

* Sections II and IX are not required for assemblers. Section II, Part C, and Section IX are not required for manufacturers if welding and brazing are not within the scope of their work.

** Section II, Part C, and Section IX are not required for manufacturers if welding and brazing are not within the scope of their work.





A: ASSEMBLY OF POWER BOILERS

| CODE BOOKS RI Section I - Section II - Part C Section V- Section IX - B31.1-2007 - | EQUIRED: Power Boilers Materials Specifications for Welding Rods, Electrodes and Filler Metals NonDestructive Examination Welding & Brazing Qualifications Power Piping ORDER NO. BPVCB \$2,495.00 |
|--|--|
| CODE SYMBOL STAMP | (ASME) |
| CODE BOOKS R Section I - Section II - Part A Part B Part D B31.1-2007 - | E: ELECTRIC BOILERS EQUIRED: Power Boilers Materials Ferrous Materials Specifications Nonferrous Materials Specifications Properties (Customary or Metric) Power Piping ORDER NO. BPVCE \$2,850.00 |
| CODE SYMBOL STAMP | ASME |
| H: CODE BOOKS RI Section IV - | CAST IRON SECTIONAL HEATING BOILERS EQUIRED: Heating Boilers ORDER NO. BPVCH2 \$460.00 |
| | |
| CODE SYMBOL STAMP | A _{SME} |
| H: FI | ELD ASSEMBLY OF BOILERS |
| CODE BOOKS RI Section IV - | EQUIRED: Heating Boilers |





H: HEATING BOILERS EXCEPT CAST IRON HLW: LINED POTABLE WATER HEATERS

| CODE BOOKS R | EQUIRED: |
|--------------|-------------------------------------|
| Section II - | Materials |
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Section IV - | Heating Boilers |
| Section IX- | Welding & Brazing Qualifications |

ORDER NO. BPHLW \$3,050.00

CODE SYMBOL STAMP



HV: HEATING BOILER SAFETY VALVES

CODE BOOKS REQUIRED**:

| CODE DOORS REQUIRED . | | | | |
|-------------------------------------|--|--|--|--|
| Materials | | | | |
| Ferrous Materials Specifications | | | | |
| Nonferrous Materials Specifications | | | | |
| Specifications for Welding Rods, | | | | |
| Electrodes and Filler Metals | | | | |
| Heating Boilers | | | | |
| Welding & Brazing Qualifications | | | | |
| Pressure Relief Devices | | | | |
| | | | | |

ORDER NO. BPVHV \$3,145.00

CODE SYMBOL STAMP **M: MINIATURE BOILERS** CODE BOOKS REQUIRED: Section I -**Power Boilers** Section II -Materials Part A Ferrous Materials Specifications Nonferrous Materials Specifications Part B Specifications for Welding Rods, Part C **Electrodes and Filler Metals** Part D Properties (Customary or Metric)

Section IX- Welding & Brazing Qualifications B31.1-2007 - Power Piping

ORDER NO. BPVCM \$4,060.00

Welding & Brazing Qualifications ORDER NO. BPVCH \$980.00

Section IX-

Product Certification Packages continued

Code books required for use with ASME Code Symbol Stamps

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| CODE SYMBOL STAMP | CODE SYMBOL STAMP | CODE SYMBOL STAMP |
| N: TYPE CERTIFICATES OF AUTHORIZATION AND CERTIFICATES OF ACCREDITATION: N, NA NPT, NS CODE BOOKS REQUIRED: Section II - Materials Part D Properties (N and NA only) (Customary or Metric) Section III - Rules for Construction of Nuclear Facility Components Subsection NCA - General Requirements for Division 1 and Division 2 (Not Required for Section III); Appendices Section V - NonDestructive Examination Section IX - Welding & Brazing Qualifications NQA-1-2008 Quality Assurance Program Requirements for Nuclear Facilities ORDER NO. BPNPT \$2,480.00 Applicants should note that they may need one or more of the following parts of Section II and Subsections of Section II, depending on the scope of their work, to appear on the certificate. Section II - Materials Part A Ferrous Materials Specifications Part B Nonferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Subsection ND - Class 1 Components Subsection ND - Class 3 Components Subsection ND - Class 1 Components Subsection NF - Supports Subsection NH - Class 1 Components Subsection NH - Class 1 Components in Elevated Temperature Service Division 2: Code for Concrete Reactor Vessels and Containments Division 3: Containment Systems for Storage and Transport Packaging of Spent Nuclear Fuel and High Level Radioactive Materials and Waste SEE ORDER FORM FOR ORDER NUMBERS AND PRICES | <section-header><section-header><section-header></section-header></section-header></section-header> | N: TYPE CERTIFICATES OF AUTHORIZATION AND CERTIFICATES OF ACCREDITATION: N3 CODE BOOKS REQUIRED: Section II - Materials Part D Properties (Customary or Metric) Section III - Rules for Construction of Nuclear Facility Components Division 3: Containment Systems for Storage and Transport Packaging of Spent Nuclear Fuel and High Level Radioactive Material and Waste Section V NonDestructive Examination Section IX - Welding & Brazing Qualifications NQA-1-2008 Quality Assurance Program Requirements for Nuclear Facilities ORDER NO. PVCN3 \$2,505.00 Applicants should note that they may need one or more of the following parts of Section II and Subsections of Section II, depending on the scope of their work, to appear on the certificate. Section II - Materials Part A Ferrous Materials Specifications Part A Ferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Part D Properties ((N and NA only) (Customary or Metric) Subsection NB - Class 1 Components Subsection ND - Class 3 Components Subsection ND - Class 3 Components Subsection ND - Class 1 Components in Elevated Temperature Service Division 2: Code for Concrete Reactor Vessels and Containmen |

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Product Certification Packages continued

Code books required for use with ASME Code Symbol Stamps

| CODE SYMBOL STAMP | CODE SYMBOL STAMP | CODE SYMBOL STAMP |
|--|---|---|
| PP: PRESSURE PIPING S: POWER BOILERS | TRANSPORT TANKS RUPTURE DISK DEVICES | U: PRESSURE VESSELS (DIV. I) UM: MINIATURE PRESSURE VESSELS |
| CODE BOOKS REQUIRED: Section I - Power Boilers Section II - Materials Part A Ferrous Materials Specifications Part B Nonferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Part D Properties (Customary or Metric) Section V- NonDestructive Examination Section IX - Welding & Brazing Qualifications B31.1-2007 - Power Piping ORDER NO. BPVCA \$4,565.00 | CODE BOOKS REQUIRED*: Section II - Materials Part A Ferrous Materials Specifications Part B Nonferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Part D Properties (Customary or Metric) PTC 25-2008 - Pressure Relief Devices Section IX - Welding & Brazing Qualifications Section XII - Rules for Construction and Continued Service of Transport Tanks | CODE BOOKS REQUIRED: Section II - Materials Part A Ferrous Materials Specifications Part B Nonferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Part D Properties (Customary or Metric) Section V- NonDestructive Examination Section VIII - Pressure Vessels, Division 1 Section IX - Welding & Brazing Qualifications ORDER NO. BPVUM \$5,175.00 |
| | ORDER NO. BPVCTD \$3,840.00 | |
| CODE SYMBOL STAMP RP: FIBER-REINFORCED PLASTIC VESSELS CODE BOOKS REQUIRED: Section X - Fiber-Reinforced Plastic Vessels ORDER NO. BPVRP \$410.00 CODE SYMBOL STAMP CODE STAMP STAMP CODE STAMP STAMP CODE STAMP ST | CODE SYMBOL STAMP Image: Symposized strength strengt | CUDE SYMBOL STAMP ASME D: RUPTURE DISK DEVICES CODE BOOKS REQUIRED*: Section II - Materials Part A Ferrous Materials Specifications Part B Nonferrous Materials Specifications Part C Specifications for Welding Rods, Electrodes and Filler Metals Part D Properties (Customary or Metric) Section IXII Pressure Vessels, Division 1 Section IX. Welding & Brazing Qualifications PTC 25-2008 - Pressure Relief Devices ORDER NO. BPVCUD \$4,075.00 |
| CODE BOOKS REQUIRED:Section II -MaterialsPart AFerrous Materials SpecificationsPart BNonferrous Materials SpecificationsPart CSpecifications for Welding Rods, Electrodes and Filler MetalsPart DProperties (Customary or Metric)Section V-NonDestructive ExaminationSection XII -Rules for Construction and Continued Service of Transport TanksORDER NO. BPVCT\$4,250.00 | Section XII - Rules for Construction and Continued Service of Transport Tanks ORDER NO. BPVCTV \$3,840.00 | |

Product Certification Packages continued

Code books required for use with ASME Code Symbol Stamps

CODE SYMBOL STAMP



UV: PRESSURE VESSELS SAFETY VALVES

CODE BOOKS REQUIRED*:

| Section II - | Materials |
|----------------|-------------------------------------|
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| Section VIII - | Pressure Vessels, Division 1 or |
| | Division 2 |
| Section IX - | Welding & Brazing Qualifications |
| PTC 25-2008 - | Pressure Relief Devices |
| | |

ORDER NO. BPUV1 \$4,075.00 **INCLUDES SECTION VIII, DIV 1** ORDER NO. BPUV2 \$4,075.00 **INCLUDES SECTION VIII, DIV 2**

CODE SYMBOL STAMP



UV3: PRESSURE VESSELS SAFETY VALVES

| CODE BOOKS RE | EQUIRED*: |
|----------------|-------------------------------------|
| Section II - | Materials |
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| Section VIII - | Pressure Vessels, Division 3 |
| Section IX - | Welding & Brazing Qualifications |
| PTC 25-2008 - | Pressure Relief Devices |
| | |

ORDER NO. BPUV3 \$3,995.00

SYMBOL STAMP

CODE

U2: PRESSURE VESSELS (DIV. 2)

CODE BOOKS REQUIRED:

| Section II - | Materials |
|----------------|-------------------------------------|
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| Section V - | Nondestructive Examination |
| Section VIII - | Pressure Vessels, Division 2 - |
| | Alternative Rules |
| Section IX - | Welding & Brazing Qualifications |
| | |

ORDER NO. BPVU1 \$4,485.00



U3: PRESSURE VESSELS (DIV 3)

| CODE BOOKS R | EQUIRED: |
|----------------|--|
| Section II - | Materials |
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| Section V - | Nondestructive Examination |
| Section VIII - | Pressure Vessels, Division 3 - |
| Section IX - | Alternative Rules for Construction of High Pressure Vessels Welding & Brazing Qualifications |
| | ORDER NO. BPVU3 \$4,405.00 |





V: BOILER SAFETY VALVES

| CODE BOOKS R | EQUIRED*: |
|--------------|-------------------------------------|
| Section I - | Power Boilers |
| Section II - | Materials |
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| Section IX - | Welding & Brazing Qualifications |
| PTC 25-2008 | - Pressure Relief Devices |

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OUALITY SYSTEMS CERTIFICATES -MATERIAL MANUFACTURERS, **MATERIALS SUPPLIERS**

CODE BOOKS REQUIRED:

| Section III - | Rules for Construction of |
|----------------|---------------------------------------|
| | Nuclear Facility Components |
| Subsection NCA | - General Requirements for |
| | Division 1 and Division 2; Appendices |
| Section II - | Materials (Select Applicable Parts) |
| Part A | Ferrous Materials Specifications |
| Part B | Nonferrous Materials Specifications |
| Part C | Specifications for Welding Rods, |
| | Electrodes and Filler Metals |
| Part D | Properties (Customary or Metric) |
| | |

ORDER NO. BPCMS SEE ORDER FORM FOR PRICES

Applicants should note that they may need one or more of the following subsections of Section III, depending on the scope of their work, to appear on the certificate. In addition, these Subsections contain material requirements on Section 2000 which reference Section V and Section IX. Subsection NB - Class 1 Components Subsection NC - Class 2 Components Subsection ND - Class 3 Components Subsection NE - Class MC Components Subsection NF - Supports Subsection NG - Core Support Structures Subsection NH - Class 1 Components in Elevated **Temperature Service** Section V -**Nondestructive Examination** Section IX -Welding & Brazing Qualifications **SEE ORDER FORM FOR**

ORDER NUMBERS AND PRICES



| U | | | | Order No. | Quantity | Price |
|--|--------------------------|----------------------|--|-----------|----------|------------------|
| R | lules for Constructior | n of Power B | oilers | X00010 | | \$ 455 |
| Ν | /laterials | | | | | |
| | - A - Ferrous Material S | Specifications | (two volumes) | X0002A | | \$ 690 |
| 11 | - B - Nonferrous Mater | ial Specificat | ions | X0002B | | \$ 690 |
| 11 | - C - Specifications for | Welding Rod | s, Electrodes and Filler Metals | X0002C | | \$ 690 |
| Ш | - D - Properties (Custo | marv) | , | X0002D | | \$ 690 |
| 11 | - D - Properties (Metric | c) | | X002DM | | \$ 690 |
| B | lules for Construction | of Nuclear | Facility Components | | | |
| Ш | I- NCA - General Requi | irements for I | Division 1 and Division 2 | X0003R | | \$ 530 |
| Ш | I- NB, Class 1 Compone | ents | | X0003B | | \$ 530 |
| Ш | I- NC, Class 2 Compon | ents | | X0003C | | \$ 530 |
| Ш | I- ND, Class 3 Compon | ents | | X0003D | | \$ 530 |
| Ш | I- NE, Class MC Compo | onents | | X0003E | | \$ 490 |
| 1 | I- NF. Supports | | | | | \$ 490 |
| 1 | I- NG. Core Support St | ructures | | X0003G | | \$ 465 |
| | I- NH. Class 1 Compon | ents in Fleva | ted Temperature Service | X0003H | | \$ 490 |
| | I- Appendices | | | X0003A | | \$ 580 |
| | I- 2 Code for Concrete | Containmen | ts | X00037 | | \$ 555 |
| 11 | I- 3 Containments for 7 | Transportatio | n and Storage of Spent Nuclear Fuel and | | | , JJ. |
| | High Level Radioact | tive Material | and Waste | X00033 | | \$ 555 |
| п | I-5 High Temperature | Reactors | | X00035 | | \$ 555 |
| | Pules for Construction | of Heating | Boilers | X00033 | | \$ 797 \$ 797 |
| | landestructive Event | instian | Dollers | X00040 | | \$ 400 ¢ 505 |
| r | iondestructive Exam | | | X00050 | | \$ 505 |
| F | lecommended Rules | for the Care | and Operation of Heating Boilers | X00060 | | \$ 260 |
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