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Standard Marking System for Valves, Fittings, Flanges, and Unions

Standard Practice
Developed and Approved by the
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This MSS Standard Practice was developed under the consensus of the MSS Technical Committee 302 and the MSS Coordinating Committee. The content of this Standard Practice is the resulting efforts of competent and experienced volunteers to provide an effective, clear, and non-exclusive standard that will benefit the industry as a whole. This MSS Standard Practice describes minimal requirements and is intended as a basis for common practice by the manufacturer, the user, and the general public. The existence of an MSS Standard Practice does not in itself preclude the manufacture, sale, or use of products not conforming to the Standard Practice. Mandatory conformance to this Standard Practice is established only by reference in other documents such as a code, specification, sales contract, or public law, as applicable. MSS has no power, nor does it undertake, to enforce or certify compliance with this document. Any certification or other statement of compliance with the requirements of this Standard Practice shall not be attributable to MSS and is solely the responsibility of the certifier or maker of the statement.

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In this Standard Practice, all text, notes, annexes, tables, figures, and references are construed to be essential to the understanding of the message of the standard, and are considered normative unless indicated as "supplemental". All appendices, if included, that appear in this document are construed as "supplemental". Note that supplemental information does not include mandatory requirements.

U.S. customary units in this Standard Practice are the standard; the (SI) metric units are for reference only.

This Standard Practice has been substantially revised from the previous 2008 edition. It is suggested that if the user is interested in knowing what changes have been made, that direct page by page comparison should be made of this document and that of the previous edition.

Non-toleranced dimensions in this Standard Practice are nominal unless otherwise specified.

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FOREWORD

The original publication of the Standard Marking System was developed by MSS in 1934. It stated the basic rules but was considered to need more details for general use. A second edition was therefore prepared with additional details and examples and was published in 1936.

The third edition, published in 1954, recognized the use of new materials, increased operating temperatures and pressures, and added more examples of markings for regular products.

In 1958, the fourth edition incorporated relatively minor changes and updates; including some additional marking examples.

For the fifth edition, published in 1960, the format was revised to permit the use of nameplates on valve bodies. In addition, this version added requirements for the marking of ductile iron products.

The sixth edition, published in 1964, broadened the scope of this marking standard and revised the examples and sections of the text to reflect changes in piping requirements.

The seventh edition, published in 1978, was substantially revised and re-written to simplify its cross references and to improve readability. This edition incorporated the marking features of pressure-temperature marking designations contained in existing American National Standards involving products and materials. It was also rearranged so that the General Rules were stated in Sections 1 through 11 and amplified in Sections 12 through 18; which gave specific rules and examples of marking requirements relating to various products and materials.

In 1993, the eighth edition incorporated relatively minor changes and updates; including minor revisions required to harmonize this document with then-current MSS Standard Practices.

The tenth edition was published in 2008 and included revisions to ASME B16.34 example markings and mandatory MSS conformance markings, in addition to clarifications of other general requirements.

This eleventh edition, published in 2013, includes new Annexes for Reference Tables and Marking Requirement Examples, the addition of laser marking techniques and country of origin marking, substantial revision and re-formatting to update the document text and tables, and other revisions to provide clarification as warranted. This 2013 edition has been approved as an American National Standard.

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Manufacturers Standardization Society of the Valve and Fittings Industry

STANDARD MARKING SYSTEM FOR VALVES, FITTINGS, FLANGES, AND UNIONS

1. SCOPE

1.1 This standard marking system applies to valves, fittings, flanges, and unions used in piping connections which include (but are not limited to) flanged, soldered, brazed, threaded, or welded joints.

1.2 The markings specified within this Standard Practice serve to identify the manufacturer, the rating designation, materials of construction, and special service limitations imposed by the manufacturer. They are used for product identification and to assist in proper application.

2. GENERAL MARKING REQUIREMENTS

2.1 Each product, of a size and shape permitting legible marking, shall be marked in accordance with the provisions of this Standard Practice.

2.2 Markings shall be applied to the body of valves, fittings, and the nut of unions, or on an identification plate. For quarter-turn valves, markings shall be applied to the body, identification plate, or handle. Markings on covered quarter-turn valve handles may not be integral with the base handle material.

2.3 Markings shall consist of numerals, letters, or symbols that are cast, forged, stamped, electro-etched, vibro-etched, laser-etched, or otherwise made integral with the product, or as markings on an identification plate attached to the product, or both. Where stamping is used on pressure containing walls, low stress stamps which produce a round bottom impression shall be used; such low stress stamps are not required on flanged edges or on raised pads provided for marking purposes.

2.4 Markings indicating conformance with recognized documents, such as the ASME Boiler and Pressure Vessel Codes, or applicable API, FM, and UL conformance, testing, and/or certification requirements, may be applied only by authorized, licensed, or approved manufacturers. Such markings shall be applied only to products fully conforming to the applicable qualification, conformance, and/or certification requirements and may be shown on the body or an attached plate, at the option of the manufacturer.

2.5 Manufacturers may apply markings indicating conformance with codes and standards such as API, ASME, ASTM, AWWA, and MSS, on products that fully conform to the standards. Certain codes and standards specify mandatory product conformance markings and methods. Such markings may be shown on the body, on an attached plate, or as otherwise specified.

2.6 International and Federal commerce laws may require marking of finished products with country of origin. When required, the markings shall be conspicuous and positioned to prevent concealment during use.

2.7 Flow or pressure indication shall be marked on unidirectional valves. Commonly used markings include arrows or the words “inlet” or “outlet” or “high pressure side” marked at an appropriate end.

2.8 Nothing in this Standard Practice shall be construed as prohibiting the use of additional markings such as catalog reference numbers, pattern numbers, patent numbers, dates, customer specification numbers, etc. Product markings that indicate special designs, particular requirements, or special limitations, should also carry additional special marking to distinguish them from regularly available and standard products. All additional markings shall be applied in such a manner as to avoid confusion with standardized symbols or markings.

3. MANUFACTURER’S NAME OR TRADEMARK

All valves, fittings, flanges, and unions shall be marked with the manufacturer’s (Mfr’s) name, trademark, or symbol, unless size or shape does not permit.

4. RATING DESIGNATION

4.1 The expression "Rating Designation" includes the intent of the expressions "Pressure Designation", "Class Designation", "Pressure Class", and similar terms used to define the pressure and temperature limitations of the product. The rating designation shall be shown by one of the systems in the sections that follow.

4.1.1 The rating designation for products that fully conform to recognized standards may be designated by the Class numbers alone (e.g., a steam pressure rating or a pressure class designation). Pressure Rating Values may be abbreviated by using "M" to designate units of one thousand (e.g., "3M" used in place of "3000").

4.1.2 The rating designation for products that may conform to recognized standards, however, are not suitable for the full range of pressures or temperatures of these standards (where allowed), shall be marked as prescribed in Section 4.1.3 and 4.1.4, as appropriate, and shall also show the numbers and letters representing the service limitation at the limiting condition.

4.1.3 The rating designation for products that do not conform to recognized product standards may be shown by numbers and letters representing the pressure ratings at the corresponding temperatures in the following format:

"2000 AT 100F 725 AT 925F"

The rating designation may also be shown as the maximum pressure followed by "CWP"[(a)] and the allowed pressure at the maximum temperature, seen in the following format:

"2000 CWP 725 AT 925F"

Products intended for ambient room temperature may show the allowable pressure followed by letters CWP or equivalent, seen in the following format:

"2000 CWP"

4.1.4 Products with dual or multiple rating designations may be marked with maximum pressure at CWP and the allowable pressure at the maximum temperature, seen in the following format:

"2000 CWP 725 AT 925 F"

4.2 When marking in (SI) metric notation, the units of preference will be bar[(b)] or kilopascals (kPa) of gauge pressure, and degrees Celsius for temperature. Numbers designating pressure will be followed by the term "BAR" or "KPA", and temperature designation by the letter "C". Conversion of direct pressure values is permitted, but conversion of pressure classes to "metric equivalents" should not be attempted.

4.3 Products made to attach to a specific pipe may be marked with the appropriate pipe schedule number or pipe wall designation.

4.4 Special markings for rating designation may be specified in individual product standards.

NOTES:

(a) CWP (Cold Working Pressure) is the maximum pressure rating allowed under normal "ambient" temperature conditions, which are usually understood to be -20 °F to 100 °F (-29 °C to 38 °C). Certain "ambient" temperature standards and practices have a different range or are limited by recognized codes and standards. Consult the applicable codes, standards, or manufacturer's technical data for specific information.

Other symbols which are in common usage throughout the industry include:

SP – Steam pressure WSP – Working steam pressure S – Steam	Correspond to SWP (Steam Working Pressure)
WO – Water, oil pressure WOG – Water, oil, gas pressure GLP – Gas, liquid pressure WWP – Working water pressure W – Water pressure	Correspond to CWP (Cold Working Pressure)

These markings may be continued in use at the manufacturer's option, unless prohibited by codes, standards, or specifications applicable to a particular product.

(b) The pressure unit of 1 bar is equal to 14.5 pounds per square inch. The conversion factor of 1 bar is equal to 100 kilopascals.

5. MATERIAL DESIGNATION

5.1 Products made of conforming materials shall be marked in accordance with ASTM, ASME, or other recognized material specifications, as described in the following Product Marking sections. In a composite structure made of several materials, the material limiting its pressure-temperature rating shall be marked. In addition, products may instead be marked with proprietary material designations, but confusion shall be avoided with standardized material symbols or markings, and other sections of this Standard Practice.

5.2 Products made of one material and lined with another, excluding corrosion resistant coatings, shall carry the regular markings specified by this Standard Practice and additional markings indicating:

(1) that the product is lined, and

(2) the material used for its lining (e.g. RL NR).

5.3 Material markings are not required on ASTM B61, B62, and B584 alloys, UNS C83800 and UNS C84400, cast copper alloy threaded or solder-joint fittings, flanges, unions, valves, or wrought copper solder-joint products.

5.4 Material marking is not required for gray iron, except as shown in Section 12.2.

Alloyed gray iron may be identified by a manufacturer's symbol, provided that confusion with standardized symbols or markings is avoided.

5.5 The symbols for metals shown in Table 1 are in common use and may be used as standard references for marking nameplates and bodies. Non-ferrous body materials may also be marked with the symbols shown in Table 1. Products with steel bodies shall be marked with the ASTM specification grade identification symbol.

Other symbols, including manufacturer's trade names and material codes, are permitted, but confusion shall be avoided with standardized symbols or markings.

5.6 The non-metallic symbols, shown in Table 2, are typical standardized symbols. The use of specific names and trade names is also permitted, but confusion shall be avoided with standardized symbols. For valves trimmed with composite construction elements, the dominant functional material should be named.

6. MELT IDENTIFICATION

If part size permits and when required by the product or material's specification standard, carbon, alloy, and stainless steel castings and forgings used for fittings, flanges, valve bodies, bonnets, and covers shall be marked with a melt identification and material symbol. Melt identification is not required for materials identified in Sections 5.3 and 5.4.

7. VALVE TRIM IDENTIFICATION

7.1 Trim identification marking is required on the identification plate for all flanged end and butt-welding end steel or flanged-end ductile iron body valves having trim material which is different than the body material. Symbols for material identification can be found in Tables 1 and 2 of this Standard Practice. If all trim materials are the same, the identification plate may be marked with the word "TRIM", followed by the appropriate material symbol.

7.1.1 When required, trim identification marking for gate, globe, angle, and cross valves or valves with similar design characteristics shall consist of three material symbols. The symbols may either be preceded by the words "STEM", "DISC", "SEAT", or used alone. If used alone, the symbols shall appear in the following order: (1) the first symbol shall indicate the material of the stem, (2) the second shall indicate the material of the disc or wedge face, and (3) the third shall indicate the material of the seat face.

7.1.2 When required, the trim identification marking for check valves having no stem shall consist of two material symbols. The symbol may either be preceded by the words "DISC", "SEAT", or if used alone, the first symbol shall indicate the material of the disc face, and the second shall indicate the material of the seat face.

7.1.3 Plug, ball, and butterfly valves or other quarter-turn valves require no trim identification marking unless the plug, ball, disc, or closure member, or stem, or both are different material than the body. In such cases, trim identification symbols on the nameplate will first indicate the material of the stem, and secondly indicate the material of plug, ball, disc, or closure member.

When required, valves with seating or sealing materials different than the body material shall add a third symbol to indicate the material of the seat. In these cases, the seat symbol identification shall be preceded by the word "SEAT". If used alone, the material symbols must appear in the order given.

7.1.4 When specified, API steel valves built to specific standards that list Trim Numbers shall be marked with the API Standard Number (e.g., “API 600”), the word “TRIM”, and the API Trim Number (e.g., 1,2,3, etc.) on the valve’s Identification Plate. See Section B18.5.5 Example.

8. SIZE DESIGNATION

8.1 Size markings shall be in accordance with the Marking Requirements for each referenced product, located in Sections 12 through 18.

8.2 Size designation for products designed with a single nominal bore shall consist of numerals indicating the nominal pipe size (NPS) of the connecting ends. The word "nominal" indicates the numerical identification associated with pipe sizes and may not correspond to the actual valve, pipe, or fitting diameter.

For applications where marking in (SI) metric notation is required, the equivalent (SI) metric-based numerical size, as identified in Table 3, shall be given, preceded by "DN" (*aka* Nominal Diameter).

8.3 Products having internal elements that are the equivalent of one pipe size or more different than the end size may have dual markings unless specified otherwise in a product standard, or as indicated in Sections 8.3.1 and 8.3.2.

Unless these exceptions exist, the first number shall indicate the connecting end pipe size and the second number shall indicate the minimum bore diameter or the pipe size corresponding to the closure size.

Examples: NPS 6 X 4, NPS 4 X 2-1/2

8.3.1 For valves, at the manufacturer’s option, triple marking size designation may be employed. If triple size designation is used, the first number shall indicate the connecting end size at one end, the second number shall indicate minimum bore diameter or pipe size corresponding to the closure size and the third number shall indicate the connecting-end size at the other end.

For example, a “24 X 20 X 30” marking on a valve designates an NPS 24 connection, an NPS 20 nominal center section, and an NPS 30 connection.

8.3.2 Fittings with multiple outlets may be designated at the manufacturer’s option in a "run x run x outlet" size method.

For example, “30 X 30 X 24” marking on a fitting designates a product with NPS 30 end connections and an NPS 24 branch connection (i.e., outlet).

9. IDENTIFICATION OF THREADED ENDS

9.1 Fittings, flanges and valve bodies whose connecting ends are threaded, other than taper pipe threads (NPT) or straight hose threads (NPSH), in accordance with ASME B1.20.1, shall be marked to indicate the type of thread. The style of marking may be the manufacturer’s own symbol, but confusion with standardized symbols or markings shall be avoided. The marking to designate threaded ends may be a tag, or other manufacturer’s mark, permanently attached or applied to the valve or valve body. Fittings having left-hand threads shall be marked with the letters "LH" on the outside wall of the appropriate opening.

9.2 Marking of products having ends threaded for API casing, tubing, or drill pipe shall include the following:

a) Size

b) The letters “API”

c) The thread type symbol, as listed in Table 4

9.3 Marking of products using other pipe threads shall include the following:

a) Nominal pipe, tubing, drill pipe, or casing size
b) Outside diameter or upset diameter of pipe, tubing, drill pipe, or casing
c) Name of thread
d) Number of threads per inch

10. RING-JOINT FACING IDENTIFICATION

10.1 All connecting end flanges having standard ring-joint grooves manufactured in accordance with API 6A shall be marked with the letter "R" and the corresponding ring groove number.

11. PERMISSIBLE OMISSION OF MARKINGS

11.1 The manufacturer's name, trademark, or symbol shall be shown on all products marked in accordance with this Standard Practice, unless size or shape does not permit such marking.

11.2 When shape or size does not permit inclusion of all the required markings, body and/or identification plate markings, as appropriate to the product and material, may be omitted in the following order:

a) Size
b) Thread identification (see Section 9.1)
c) Valve trim identification
d) Melt identification
e) Rating designation
f) Material designation
g) Manufacturer's name or trademark

When omitting markings, size is least important and shall be the first to be omitted. The manufacturer's name or trademark is most important and shall be the last marking omitted.

11.3 Section 11 permissible omissions are applicable to Sections 13 through 18.

12. MARKING REQUIREMENTS FOR FLANGES, FLANGED FITTINGS, AND FLANGED UNIONS

12.1 ***Gray Iron Flanges*** Markings shall be as follows (see Annex B12.1 for examples):

a) Manufacturer's name or trademark
b) Rating designation
c) Supplemental material designation when Classes A or B can be used

12.2 ***Gray Iron Flanged Fittings*** Markings shall be as follows (see Annex B12.2 for examples):

a) Manufacturer's name or trademark
b) Rating designation as listed in Table 5
c) Supplemental material designation when Classes A or B can be used

12.3 ***Gray Iron Flanged Unions*** Class 125 and Class 250 shall be marked as follows (see Annex B12.3 for example):

a) Manufacturer's name or trademark

12.4 ***Bronze Flanges and Flanged Unions*** Markings shall be as follows (see Annex B12.4 for examples):

a) Manufacturer's name or trademark

12.5 ***Bronze, Brass, and Non-Ferrous Flanged Fittings*** Markings shall be as follows (see Annex B12.5 for examples):

a) Manufacturer's name or trademark
b) Material designation
   (NOTE: When the trade name is the only available identification, it shall be spelled out)
c) Rating designation: Mark with ASTM designation. When B148 material is used for flanges, also include "952".
d) Indication of conformance to ASME B16.24, if applicable
e) Size

12.6 ***Ductile Iron Flanges and Flanged Fittings*** Markings shall be as follows (see Annex B12.6 for example):

a) Manufacturer's name or trademark
b) Rating Class (e.g., 150, 300)
c) Material designation: "DUCTILE"("DI" where space is limited)
d) Size (may be omitted from reducing flanges and reducing flanged fittings)

12.7 ***Steel Flanges, Flanged Fittings, and Flanged Unions*** Markings shall be as follows (see Annex B12.7 for examples):

a) Manufacturer's name or trademark

b) Material designation: Cast steel flanges and flanged fittings shall be marked with the ASTM specification grade identification symbol and the melt number or melt identification, and may also be marked with the word "STEEL". Forged flanges and forged or fabricated flanged fittings shall be marked with the ASTM specification number and grade identification symbol. When more than one material or grade of materials is used, each shall be identified. A manufacturer may supplement the standard material designations with their trade designation for the grade of steel, provided that confusion with standardized symbols or markings is avoided.

c) Rating designation corresponding to the Pressure Rating Class

d) Temperature: Temperature markings are not required on flanges and flanged fittings, but if marked, the temperature shall be shown with the corresponding limiting pressure for the material.

e) Size: The NPS shall be given, but may be omitted from reducing flanges and reducing flanged fittings.

f) Ring-joint flange ring number, when applicable

g) Indication of conformance to ASME B16 standards, if applicable

13. MARKING REQUIREMENTS FOR THREADED FITTINGS AND UNION NUTS

13.1 ***Threaded Gray Iron Fittings*** Markings shall be as follows (see Annex B13.1 for examples):

a) Manufacturer's name or trademark

b) Rating designation, with the exception that rating description is not required on Class 125 gray iron fittings or gray iron drainage fittings.

c) Materials markings are not required on gray iron threaded fittings except that alloy cast threaded fittings shall be marked with a word or symbol that will properly identify the material. The manufacturer's own symbol may be used provided confusion with standardized symbols or markings is avoided.

13.2 ***Bronze and Brass Threaded Fittings and Union Nuts*** Markings shall be as follows (see Annex B13.2 for examples):

a) Manufacturer's name or trademark

b) Rating designation: Rating designation is not required on Class 125 cast bronze threaded fittings. Class 250 fittings will be marked "250".

c) Size: When part has space for marking

13.3 ***Non-Ferrous Alloys Threaded Fittings*** Markings other than for brass or bronze fittings shall be marked as follows (see Annex B13.3 for example):

a) Manufacturer's name or trademark

b) Rating designation

c) Material designation

13.4 ***Ductile Iron Class 300 Threaded Fittings and Threaded Unions*** Markings shall be as follows (see Annex B13.4 for example):

a) Manufacturer's name or trademark

b) Material designation: When shape and size permits, ductile iron nuts shall be marked with the word "DUCTILE". When size and shape restrictions do not permit marking of the complete word, the letters "DI" shall be substituted.

c) Rating designation: Class 300 ductile iron threaded fittings and threaded union nuts shall be marked with the numerals "300", designating the nominal service rating. When heavier patterns are used to cast ductile iron fittings rate otherwise, they shall be marked with the numerals designating the maximum cold working pressure in psi supplemented by the letters "CWP".

13.5 ***Malleable Iron Threaded Fittings and Threaded Unions*** Markings shall be as follows (see Annex B13.5 for examples):

a) Manufacturer's name or trademark

b) Material designation: Class 300 fittings shall be marked with the letters "MI". Class 150 malleable iron threaded fittings and

Classes 150, 250, and 300 malleable iron threaded unions do not require material marking.

c) Rating designation: Classes 150, 250, and 300 malleable iron unions and Class 300 malleable iron threaded fittings shall be marked with their respective numerals to designate their nominal rating. At the manufacturer's option, the numerals designating the cold working pressure supplemented by the letters "CWP" may be added.

d) Size: Size markings are not required on Class 150 malleable iron threaded fittings.

13.6 ***Ferrous Threaded Plugs, Bushings, and Locknuts*** Markings shall be as follows (see Annex B13.6 for example):

a) Manufacturer's name or trademark

13.7 ***Steel Threaded Fittings and Unions*** Markings shall be as follows: (see Annex B13.7 for examples):

a) Manufacturer's name or trademark

b) Material designation: Threaded fittings made of carbon steel, forged or barstock carbon steel, alloy cast steel, or forged or barstock alloy steel shall be marked with the word "STEEL", or the grade identification symbols as designated by AISI/SAE, or in ASTM or MSS specifications. Austenitic stainless steel threaded fittings may carry only the grade identification symbols.

c) Indication of conformance to Standard (e.g., MSS SP-83 marked as "SP83" or B16.11 as "B16")

d) Rating designation: Cast steel, forged steel, and barstock steel threaded fittings shall be marked with the pressure class or with the numerals designating the cold working pressure in psi, supplemented by the letters "CWP". Forged steel and barstock fittings shall be marked with numerals indicating the pressure class designation tabulated in ASME B16.11. When the nominal rating is other than that specified in ASME or MSS standards, the numerals comprising the maximum pressure in psi, supplemented by one or more of the standard symbols identifying the class of service, shall be used.

e) Melt identification (see Section 6)

f) Size

14. MARKING REQUIREMENTS FOR WELDING AND SOLDER JOINT FITTINGS AND UNIONS

14.1 ***Steel Butt-Welding and Socket-Welding Fittings and Union Nuts*** Markings shall be as follows (see Annex B14.1 for examples):

a) Manufacturer's name or trademark

b) Material designation: Forged carbon and alloy steel socket-welding end fittings and unions shall be marked with the grade identification as per applicable ASTM or MSS specifications, or as designated by AISI/SAE. Austenitic stainless steel socket-welding end fittings and unions may carry the grade identification symbols in lieu of the ASTM number. Butt-welding fittings conforming to the requirements of ASTM specifications A234, A403 (excepting light-wall fittings manufactured to MSS SP-43), A420, B361, B363, and B366, shall use marking symbols consisting of the prefix "WP" added to the ASTM-specified grade identification symbol.

Examples: WPB, WP304, WPL6, WP6061

If the fittings are of welded construction, the material marking will be supplemented with the suffix letter "W". MSS SP-75 high-test, wrought, butt-welding fittings have grade identification consisting of the letters "HY" and the numerals comprising the minimum specified yield strength in thousands of pounds per square inch (ksi).

Example: WPHY-52

MSS SP-43 corrosion resistant schedule 5S and 10S welding fittings have the grade identification prefixed by the letters "CR" rather than the "WP" which designates ASME B16.9 conformance.

Example: CR304

c) Rating designation: Socket-welding end products shall be marked with numerals indicating the pressure class designation, as tabulated in ASME B16.11. Butt-welding end products that carry the same ratings as the pipe with which they are intended to be used, shall be marked with the appropriate

pipe schedule number or the pipe nominal wall thickness designation.

d) Size

e) Melt identification (when specified)

14.2 ***Solder Joint Fittings*** Markings shall be as follows (see Annex B14.2 for examples):

a) Manufacturer's name or trademark

b) Material designation: Material markings are not required on cast copper alloy solder joint fittings, flanges, unions, or wrought copper solder-joint products.

c) Rating designation: Rating designation markings are not required on cast copper alloy solder-joint products for pressure systems. Cast copper alloy or wrought copper solder-joint drainage products shall be marked "DWV" to signify drainage waste vent. Cast bronze or wrought copper solder-joint drainage fittings, designed for dry vents only, shall be marked "VENT ONLY".

15. MARKING REQUIREMENTS FOR NON-FERROUS VALVES

15.1 ***Brass, Bronze, and Non-Ferrous Body Valves*** Markings shall be placed on the body as follows (see Annex B15.1 for examples):

a) Manufacturer's name or trademark

b) Rating designation

c) Material designation, when required (refer to Section 5.3)

d) Size

16. MARKING REQUIREMENTS FOR GRAY IRON VALVES

16.1 ***Gray Iron Valves*** Markings shall be cast on the body of the valve, or shown on a plate permanently attached to the valve. Cast markings obliterated during manufacturing may be replaced by engraving or stamping, at the manufacturer's option. Marking by welding is prohibited on gray iron valves. Markings shall be as follows (see Annex B16.1 for examples):

a) Manufacturer's name or trademark

b) Rating designation. Gray iron valves rated at elevated temperature service in accordance with ASME, MSS, or other recognized standards shall be marked on the body with numerals indicating the Pressure Class (e.g., 125 or 250) for NPS 12 and smaller, and the maximum saturated steam rating for NPS 14 and larger. At the manufacturer's option, the ambient temperature rating may be added to the body in all valve sizes, followed by the letters "CWP" or other designation permitted by Section 4.1.3. Gray iron valves rated for ambient temperature service only shall be marked on the body with numerals indicating the rated pressure followed by the letters "CWP" or other designation permitted by Section 4.1.3.

c) Material designation. Gray iron valves made to the specifications of ASTM A126, Class B or C are not usually marked with material designation symbols. Other alloys of gray iron shall be marked with the appropriate ASTM Class and Grade. Malleable iron body castings will be marked with "MI".

d) Size

17. MARKING REQUIREMENTS FOR DUCTILE IRON VALVES

17.1 ***Ductile Iron Valves*** Markings shall be cast, stamped, or engraved on the body of the valve, or shown on an identification plate permanently attached to the valve. Cast markings obliterated during manufacturing may be replaced by stamped or engraved plates. Stamping or engraving at the manufacturer's option. No marking by welding shall be permitted on ductile iron valves. Where stamping is used on the pressure retaining parts of the valve, see Section 2.3. Markings shall be as follows (see Annex B17.1 for examples):

a) Manufacturer's name or trademark

b) Material designation: Ductile iron valves shall be marked with the word "DUCTILE" or "DI" on the body. At the manufacturer's option, the ASTM number of grade may be added.

c) Rating designation, including on an identification plate with any special limitations such as maximum temperature required by valve construction.

d) Size

e) Valve trim identification, when appropriate, on nameplate

18. MARKING REQUIREMENTS FOR STEEL VALVES

18.1 ***Body Markings*** Markings shall be cast, stamped, forged, or engraved on the body of the valve, or on a permanently attached marked plate(1). Markings that are obliterated during manufacturing may be replaced by weld deposition, stamping, engraving, or by permanently attached marked plates, at the option of the manufacturer. Markings shall be as follows:

a) Manufacturer's name or trademark
b) Material designation
c) Rating designation
d) Melt identification (see Section 6)
e) Nominal pipe size
f) Thread identification, when required (see Section 9)
g) Ring joint identification number, when applicable
h) Additional markings are permitted (see Section 2.7)

18.2 ***Identification Plate Markings*** The following markings shall be shown on permanently attached identification plates:

a) Manufacturer's name or trademark
b) Body material designation(2)
c) Rating designation: the appropriate Pressure Rating Class
d) Service Limitation: the valve rating at 100 °F including any special limitations such as maximum pressure, pressure differential, and/or temperature limits due to valve construction features such as packing and seats.
e) Trim identification (see Section 7)
f) Additional markings are permitted (see Sections 2.6 and 2.7)
g) Indication of conformance to ASME B16.34, if applicable

18.3 ***Notes Regarding Examples*** The marking requirements for steel valves are more complex than those for any other product groups in this Standard Practice. The examples are therefore grouped to show typical, acceptable markings for valves produced in accordance with:

a) ASME B16.34 (see Section 18.4)
b) Other standards (see Section 18.5)

The examples are intended to illustrate acceptable marking practices. They are not intended to imply that they are the only acceptable markings under this Standard Practice, nor are they intended as an endorsement or approval of acceptable limits for the example materials.

The examples illustrate the marking sequence of Sections 18.1 and 18.2. The actual sequence and positioning of the actual markings, on an actual product, is at the option of the manufacturer.

18.4 ***ASME B16.34 Conforming Identification Plate and Body Marking Examples*** The Identification (I.D.) Plate and Body Marking examples are located within Annex B18.4 and conform to ASME B16.34.

18.5 ***Identification Plate and Body Marking Examples Conforming to Standards Other than ASME B16.34*** The Identification (I.D.) Plate and Body Marking examples are located within Annex B18.5 and illustrate practices conforming to standards other than ASME B16.34; considering various material and application factors.

NOTES:

(1) The permanently attached marked plate on the body is for the purpose of showing body markings and should not be confused with the Identification Plate in Section 18.2.

(2) These required markings, if shown on the body, need not be duplicated on the I.D. plate.

ANNEX A

Reference Tables

TABLE 1
Common Symbols for Metallic Materials

Material Name	Symbol	Material Name	Symbol
Aluminum	AL	Nickel-Copper Alloy	NICU
Brass	BRS	Soft Metal (e.g., lead babbitt, copper, etc.)	SM
Bronze	BRZ	Stainless Steel	SS
Carbon Steel	CS	Steel, 13 Chromium	13CR
Gray Iron	GI	Steel, 18 Chromium	18CR
Copper-Nickel Alloy	CUNI	Steel, 28 Chromium	28CR
Ductile Iron	DI	Steel, 18-8	18-8
Hardfacing	HF	Steel, 18-8 with Molybdenum	18-8SMO
Integral Seats	INT	Steel, 18-8 with Columbium	18-8SCB
Malleable Iron	MI	Surface Hardened Steel (e.g., nitrided surface)	SH

TABLE 2
Common Symbols for Non-Metallic Materials

Material Name	Symbol	Material Name	Symbol
Asbestos	ASB	Fusion Bonded Epoxy	FBE
Butadiene Rubber	BR	Isoprene Rubber	IR
Butyl Rubber	IIR	Natural Rubber	NR
Chloroprene or Neoprene	CR	Nitrile or Buna-N Rubber	NBR
Chlorosulfonated Polyethylene	SCM	Nylon	NYL
Chlorotrifluoreoethylene	CIFE	Polyacrylic Rubber	ACM
Ethylene-Propylene Diene Monomer	EPDM	Poly Vinyl Chloride	PVC
Ethylene-Propylene Rubber	EPR	Rubber Lined	RL
Ethylene-Propylene Ter Polymer	EPT	Silicone Rubber	SI
Flexible Graphite	GRAF	Styrene Butadiene Rubber	SBR
Fluorocarbon Rubber	FKM	Tetrafluoroethylene	TFE
Fluorinated Ethylene Propylene	FEP	Thermoplastic elastomer	TPE

ANNEX A (Continued)

Reference Tables

TABLE 3
Size Identification and Equivalency: NPS and DN

NPS	DN	NPS	DN
1/8	6	20	500
1/4	8	22	550
3/8	10	24	600
1/2	15	26	650
3/4	20	28	700
1	25	30	750
1¼	32	32	800
1½	40	36	900
2	50	40	1000
2½	65	42	1050
3	80	48	1200
4	100	52	1300
5	125	54	1350
6	150	60	1500
8	200	64	1600
10	250	72	1800
12	300	80	2000
14	350	88	2200
16	400	96	2400
18	450	104	2600

TABLE 4
Examples of Thread Type Symbols

Type	Symbol
Casing (short round thread)	CSG
Casing (long round thread)	LCSG
Casing (buttress thread)	BCSG
Casing (extreme-line)	XCSG
Line pipe	LP
Tubing (non-upset)	TBG

TABLE 5
ASME B16.1 Rating Designations

Class	NPS	Numeral
25	All	25
125	1 to 12 14 to 24 30 to 48	125 100 50
250	1 to 12 14 to 24 30 to 48	250 200 100

ANNEX B

Marking Requirement Examples

This Annex is an integral part of this Standard Practice and is placed after the main text for convenience.

NOTE: The examples in this Annex B correspond to the section where the requirement is located and are not listed in numerical order (e.g., B12.1.1 is the first example referenced for Section 12.1 of this Standard Practice).

B12. MARKING REQUIREMENT EXAMPLES FOR FLANGES, FLANGED FITTINGS, AND FLANGED UNIONS

B12.1 *Gray Iron Flanges*

B12.1.1 Gray iron flanges, Class 25 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	25

B12.1.2 NPS 12 and below, gray iron (ASTM A126, Class B) flanges, Class 125 or 250 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating and material designation	125B *or* 250B

B12.1.3 NPS 14 and above, gray iron (ASTM A126, Class B) flanges, Class 125 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating and material designation	125B

B12.1.4 NPS 14 and above, Gray iron flanges, Class 250 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	250

B12.2 *Gray Iron Flanged Fittings*

B12.2.1 All NPS sizes, gray iron fittings, Class 25 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	25

B12.2.2 NPS 12 and below, gray iron (ASTM A126 Class B) flanged fittings, Class 125 and 250 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating and material designation	125B *or* 250B

B12.2.3 NPS 14 to NPS 24, gray iron flanged fittings, Class 125 and 250 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	100 *or* 200

B12.2.4 NPS 30 to NPS 48, gray iron flanged fittings, Class 125 and 250 (ASME B16.1).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	50 *or* 100

ANNEX B (Continued)

Marking Requirement Examples

B12.3 ***Gray Iron Flanged Unions***

B12.3.1 Gray iron flanged unions, Class 125 or 250.

Marking Requirement	Example
Mfr's name or trademark	AB CO

B12.4 ***Bronze Flanges and Flanged Unions***

B12.4.1 Bronze flanges (ASME B16.24), Classes 150 and 300.

Marking Requirement	Example
Mfr's name or trademark	AB CO

B12.4.2 Brass or bronze flanged unions, Class 150.

Marking Requirement	Example
Mfr's name or trademark	AB CO

B12.5 ***Bronze, Brass, and Non-Ferrous Flanged Fittings***

B12.5.1 Bronze ASTM B61 flanged fittings (ASME B16.24), Class 150 or 300.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	150 *or* 300
Material designation	B61
Size	2
Conformance to ASME B16.24	B16 *or* B16.24

B12.5.2 An NPS 2 cast aluminum-bronze (ASTM B148, UNS C95200) non-ferrous flange, Class 150, conforming to ASME B16.24.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	B148 952
Rating designation	150
Size	2
Conformance to ASME B16.24	B16 *or* B16.24

B12.6 ***Ductile Iron Flanges and Flanged Fittings***

B12.6.1 An NPS 6, Class 150, ductile iron (ASTM A395) fitting conforming to ASME B16.42.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	150
Material designation	DUCTILE *or* DI
Size	6

B12.7 ***Steel Flanges, Flanged Fittings, and Flanged Unions***

B12.7.1 An NPS 4, Class 150, cast carbon steel (ASTM A216 WCB) fitting, conforming to ASME B16.5 dimensions and rated to 600 °F.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	WCB
Melt identification (see Section 6)	000
Rating designation	150
Temperature designation	140 AT 600F
Size	4
Conformance to ASME B16.5	B16 *or* B16.5

B12.7.2 An NPS 8, Class 150, cast 1¼% chromium molybdenum steel (ASTM A217 WC6) flanged fitting with ring joint facing, conforming to ASME B16.5 dimensions.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	WC6
Melt identification (see Section 6)	000
Rating designation	150
Size	8
Ring joint number	R50
Conformance to ASME B16.5	B16 *or* B16.5

ANNEX B (Continued)

Marking Requirement Examples

B12.7.3 An NPS 2, Class 300, cast 18% chromium, 8% nickel, 3% molybdenum stainless steel (ASTM A351 CF8M) fitting, conforming to ASME B16.5 dimensions.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	CF8M
Melt identification (see Section 6)	000
Rating designation	300
Size	2
Conformance to ASME B16.5	B16 *or* B16.5

B12.7.4 An NPS 4, Class 150 cast carbon steel (ASTM A216 WCB) flange, conforming to ASME B16.5 dimensions.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	WCB
Melt identification (see Section 6)	000
Rating designation	150
Size	4
Conformance to ASME B16.5	B16 *or* B16.5

B12.7.5 An NPS 6, Class 1500 forged alloy steel (ASTM A182 Grade F1), flange with ring-joint flange facing, conforming to ASME B16.5 dimensions.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	A182 F1
Melt identification (see Section 6)	000
Rating designation	1500
Size	6
Ring joint number	R46
Conformance to ASME B16.5	B16 *or* B16.5

B12.7.6 An NPS 3, carbon steel, 2000 psi rated flanged union for ambient temperatures or an NPS 3, carbon steel, 6000 psi rated flanged union for ambient temperatures.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	STEEL
Temperature designation	2000 CWP *or* 6000 CWP
Size	3

B13. MARKING REQUIREMENT EXAMPLES FOR THREADED FITTINGS AND UNION NUTS

B13.1 *Threaded Gray Iron Fittings*

B13.1.1 Gray Iron, Class 125 (ASME B16.4) or gray iron drainage (ASME B16.12).

Marking Requirement	Example
Mfr's name or trademark	AB CO

B13.1.2 Gray Iron, Class 250 (ASME B16.4).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	250

B13.2 *Bronze and Brass Threaded Fittings and Union Nuts*

B13.2.1 Bronze, Class 125 (ASME B16.15).

Marking Requirement	Example
Mfr's name or trademark	AB CO

B13.2.2 An NPS 4 Bronze, Class 250 (ASME B16.15) fitting.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	250
Size	4

ANNEX B (Continued)

Marking Requirement Examples

B13.2.3 Brass or bronze, Class 125 union, or brass or bronze, Class 250 union.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation (Class 250 only)	250

B13.2.4 An NPS 3, Brass or Bronze, Class 300 union.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	300
Size	3

B13.3 ***Non-Ferrous Alloys Threaded Fittings***

B13.3.1 Ni-Cu 505 fitting to ASME B16.15, Class 250 dimensions.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	250
Material designation	MONEL 505

B13.4 ***Ductile Iron Class 300 Threaded Fittings and Threaded Unions***

B13.4.1 Ductile iron, Class 300 threaded fitting or threaded union nut.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	DUCTILE *or* DI
Rating designation	300

B13.5 ***Malleable Iron Threaded Fittings and Threaded Unions***

B13.5.1 Malleable Iron, ASME B16.3, Class 150 fitting.

Marking Requirement	Example
Mfr's name or trademark	AB CO

B13.5.2 An NPS 1½, Malleable Iron, ASME B16.3, Class 300 fitting.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	MI
Rating designation	300
Size	1-1/2

B13.5.3 An NPS 2, Malleable Iron, Class 150, 250, and 300 (ASME B16.39) union.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	MI
Rating designation appropriate to Pressure Class	150, 250, *or* 300
Size	2

B13.6 ***Ferrous Threaded Plugs, Bushings, and Locknuts***

B13.6.1 Ferrous plugs, bushings, and nuts (ASME B16.14).

Marking Requirement	Example
Mfr's name or trademark	AB CO

B13.7 ***Steel Threaded Fittings and Unions***

B13.7.1 An NPS 3, cast steel threaded fitting designed for 1000 psi ambient temperature service.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	STEEL
Rating designation	1000 CWP
Melt identification	000
Size	3

B13.7.2 An NPS 1¼, carbon steel (ASTM A105) Class 3000 threaded fitting, conforming to ASME B16.11.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	A105, *or* WPB
Rating designation	3000
Melt identification	000
Size	1-1/4
Conformance Marking	B16

ANNEX B (Continued)

Marking Requirement Examples

B13.7.3 An NPS 3/4, alloy steel (ASTM A182 Grade F1) threaded fitting to ASME B16.11 Pressure Class 6000 designation.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	Fl, B16, *or* WP1
Rating designation	6000
Melt identification	000
Size	3/4

B13.7.4 An NPS 1, Class 3000 forged alloy steel (ASTM A182 F304) fitting.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	F304 *or* WP304
Rating designation	3000
Melt identification	000
Size	1

B13.7.5 An NPS 3, carbon steel, Class 300 union with bronze seats, recommended by the manufacturer for 300 psi at 550 °F.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	STEEL
Rating designation	300 AT 550F
Melt identification	000
Size	3

B13.7.6 An NPS 2, MSS SP-83 forged carbon steel (ASTM A105) union with socket welding ends or threaded ends, Class 3000, marked on nut and ends.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	A105
Conformance marking	SP83
Rating designation	3000
Melt identification	000
Size	2

B13.7.7 An NPS 3, MSS SP-114 cast corrosion resistant (ASTM A351 CF8M) threaded elbow, Class 150.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	CF8M
Conformance marking	SP114
Rating designation	150
Melt identification	000
Size	3

B14. MARKING REQUIREMENT EXAMPLES FOR WELDING AND SOLDER JOINT FITTINGS AND UNIONS

B14.1 *Steel Butt-Welding and Socket-Welding Fittings and Union Nuts*

B14.1.1 An NPS 4, carbon steel butt-welding fitting matching a Schedule 40 wall thickness, made from ASTM A234 material, and conforming to ASME B16.9.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	A234 WPB *or* WPB
Rating designation	SCH 40 *or* STD
Size	4
Melt identification	000

B14.1.2 An NPS 1¼ forged or barstock carbon steel (ASTM A105) socket-welding fitting conforming to ASME B16.11, Pressure Class 3000.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	A105 *or* WPB
Rating designation	3000
Size	1-1/4
Conformance Marking	B16

ANNEX B (Continued)

Marking Requirement Examples

B14.1.3 An NPS 3/4, forged or barstock alloy steel (ASTM A182 Grade F1) socket-welding fitting, conforming to ASME B16.11, Pressure Class 6000.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	Fl, *or* WP1
Rating designation	6000
Size	3/4
Conformance Marking	B16

B14.1.4 An NPS 1, butt-welding end fitting (ASTM A403), Schedule 40 pipe.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	SCH 40
Material designation	WP403 W
Size	1
Melt identification	000

B14.1.5 An NPS 1, butt-welding end fitting (ASTM A234), Standard weight pipe.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Material designation	WPB *or* A234 WPB
Rating designation	STD
Size	1
Melt identification	000

B14.2 ***Solder Joint Fittings***

B14.2.1 Cast copper alloy solder-joint pressure fittings (ASME B16.18) and wrought copper or copper alloy solder-joint pressure fittings (ASME B16.22).

Marking Requirement	Example
Mfr's name or trademark	AB CO

B14.2.2 Wrought copper pressure fittings, conforming to MSS SP-104.

Marking Requirement	Example
Mfr's name or trademark	AB CO

B14.2.3 Cast copper alloy solder-joint drainage fittings (ASME B16.23) and wrought copper or wrought copper alloy solder joint drainage fittings (ASME B16.29).

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation for drainage waste vent	DWV
Rating designation when fitting is designed for dry vents	VENT ONLY

B15. MARKING REQUIREMENT EXAMPLES FOR NON-FERROUS VALVES

B15.1 ***Brass, Bronze, and Non-Ferrous Body Valves***

B15.1.1 An NPS 2, bronze valve (ASTM B61), recommended by the manufacturer for 200 psi steam.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	200
Size	2

B15.1.2 An NPS 3/4, nickel-copper valve, recommended by the manufacturer for 300 psi steam at a temperature of 750 °F.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	300 AT 750F
Material designation	NICU
Size	3/4

B15.1.3 An NPS 1¼, ASTM B61, bronze valve, recommended by the manufacturer for 1000 psi cold fluid service.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	1000 CWP *or* 1000 WOG
Size	1-1/4

ANNEX B (Continued)

Marking Requirement Examples

B16. MARKING REQUIREMENT EXAMPLES FOR GRAY IRON VALVES

B16.1 *Gray Iron Valves*

B16.1.1 An NPS 6, Class 125, gray iron valve, recommended by the manufacturer for 125 psi steam.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	125
Size	6

B16.1.2 An NPS 12, gray iron valve, recommended by the manufacturer for 800 psi ambient temperature fluid service.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	800 CWP
Size	12

B16.1.3 An NPS 2, malleable iron valve, recommended by the manufacturer for 250 psi steam.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	250
Material designation	MI
Size	2

B16.1.4 An NPS 1½, malleable iron valve, recommended by the manufacturer for 1000 psi ambient temperature fluid service.

Marking Requirement	Example
Mfr's name or trademark	AB CO
Rating designation	1000 CWP
Material designation	MI
Size	1-1/2

B17. MARKING REQUIREMENT EXAMPLES FOR DUCTILE IRON VALVES

B17.1 *Ductile Iron Valves*

B17.1.1 An NPS 6, Class 150 ductile iron valve (ASTM A395) with 13% chromium trim.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	A395	DUCTILE *or* DI
Rating designation	220 AT 100F 95 AT 650F MAX	150
Size	6	6
Valve Trim I.D.:		
Stem	STEM 13CR	–
Disc	DISC 13CR	–
Seat	SEAT 13CR	–

B17.1.2 An NPS 6, Class 150 ductile iron valve (ASTM A395) with 13% chromium trim for an API 6D application.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	A395	DUCTILE *or* DI
Rating designation	150 AT 650F MAX	150
Size	6	6
Valve Trim I.D.:		
Stem	STEM 13CR	–
Disc	DISC 13CR	–
Seat	SEAT 13CR	–

ANNEX B (Continued)

Marking Requirement Examples

B18. MARKING REQUIREMENT EXAMPLES FOR STEEL VALVES

B18.4 *ASME B16.34 Conforming I.D. Plate and Body Marking Examples*

B18.4.1 An NPS 6, ASME B16.34 Class 150, cast carbon steel (ASTM A216 WCB) gate valve, where a manufacturer elects to limit the valve body to a specific service temperature (e.g., 800 °F).

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	WCB	WCB
Rating designation	150	150
Service limitation	285 AT 100F 800F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seats)	13CR – 13CR – NICU	–
Size	–	6
Conformance marking	B16.34	–

B18.4.2 An NPS 3/4, ASME B16.34, Class 300, forged carbon steel (ASTM A105) ball valve, with stainless steel and TFE trim.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	A105	A105
Rating designation	300	300
Service limitation	740 AT 100F SEATS 200 AT 350F MAX	–
Melt identification	–	000
Trim identification (stem-ball-seats)	316 – 316 – TFE	–
Size	–	3/4
Conformance marking	B16.34	–

B18.4.3 An NPS 8, ASME B16.34, Class 600, cast chromium-molybdenum steel (ASTM A217 WC6) globe valve, with ring-joint flange facing suitable for the full pressure-temperature rating in B16.34.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	WC6	WC6
Rating designation	600	600
Service limitation	1500 AT 100F	–
Melt identification	–	000
Trim identification (stem-disc-seat)	13CR – 13CR – 13CR	–
Size	–	8
Conformance marking	B16.34	R49 (*on edge of pipe flanges*)

B18.4.4 An NPS 4, ASME B16.34, Class 900, forged chromium-molybdenum steel (ASTM A182 F11) plug valve, with temperature limited to 350 °F.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	F11	F11
Rating designation	900	900
Service limitation	2250 AT 100F 350F MAX	–
Melt identification	–	000
Trim identification (plug)	PLUG 13CR	–
Size	–	4
Conformance marking	B16.34	–

ANNEX B (Continued)

Marking Requirement Examples

B18.4.5 An NPS 8, ASME B16.34, Class 600, cast carbon steel (ASTM A352 LCB) globe valve for low temperature service with TFE trim limited to 300 °F.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	LCB	LCB
Rating designation	600	600
Service limitation	1390 AT - 50/100F SEAT 300F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seat)	18 – NICU – TFE	–
Size	–	8
Conformance marking	B16.34	–

B18.4.6 An NPS 24, ASME B16.34, Class 150, fabricated steel gate valve, with stainless steel lining (ASTM A240 T316) and carbon steel (ASTM A515 Grade 60) exterior structure with flanges, hardfaced seats where manufacturer elects to limit valve to 800 °F.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation[(a)]	A515 GR 60 A240 T316 LINING	A515 60
Rating designation	150	150
Service limitation	235 AT 100F 800F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seats)	18-8SMO – 18-8SMO – HF	–
Size	–	24
Conformance marking	B16.34	–

NOTE: (a) I.D. Plate Material designation may also be shown as: A515 GR 60 LINING A240 T316

B18.4.7 An NPS 4, ASME B16.34, Class 150, cast chromium-nickel molybdenum stainless steel (ASTM A351 CF8M) gate valve with a carbon content less than 0.04% and with trim material same as body.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	CF8M	CF8M
Rating designation	150	150
Service limitation	275 AT 100F 1000F MAX	–
Melt identification	–	000
Trim identification	–	–
Size	–	4
Conformance marking	B16.34	–

B18.4.8 An NPS 20, ASME B16.34, Standard Class 1500, cast chromium-molybdenum steel (ASTM A217 WC6) gate valve, with ends flared to match NPS 24 pipe.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	WC6	WC6
Rating designation	1500	1500
Service limitation	3750 AT 100F	–
Melt identification	–	000
Trim identification (stem-disc-seats)	13CR – HF – HF	–
Size	–	24 X 20 X 24
Additional marking	MADE IN U.S.A.	
Conformance marking	B16.34	–

ANNEX B (Continued)

Marking Requirement Examples

B18.4.9 An NPS 12, ASME B16.34, Intermediate Rating Standard Class, cast chromium-molybdenum steel (ASTM A217 C12) check valve for 2200 psi at 1000 °F service.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	C12	C12
Rating designation	2600	2600
Service limitation	6500 AT 100F 2200 AT 1000F	–
Melt identification	–	000
Trim identification (disc-seat)	HF – HF	–
Size	–	12
Conformance marking	B16.34 SPL	–

B18.4.10 An NPS 14, ASME B16.34, Special Class 1500, cast carbon steel (ASTM A216 WCC) globe valve where manufacturer limits valve to 800 °F.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	WCC	WCC
Rating designation	1500	1500
Service limitation	3750 AT 100F 800F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seat)	CR 13 – HF – HF	–
Size	–	14
Conformance marking	B16.34 SPL	–

B18.4.11 An NPS 8, ASME B16.34, Intermediate Rating Special Class, forged chromium-molybdenum steel (ASTM A182 F22) check valve for 2000 psi at 1000 °F service.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	A182 F22	A182 F22
Special rating designation	–	2000 AT 1000F
Melt identification	–	000
Trim identification (disc-seat)	HF – HF	–
Size	–	8
Conformance marking	B16.34 SPL	–

B18.4.12 An NPS 16, ASME B16.34, Standard Class 2500, cast carbon steel (ASTM A216 WCB) gate valve with markings in (SI) metric units.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	WCB	WCB
Rating designation	2500	2500
Service limitation	425 BAR AT 38C	–
Melt identification	–	000
Trim identification (stem-disc-seat)	CR 13 – HF – HF	–
Size	–	16
Conformance marking	B16.34	–
Additional markings	MADE IN U.S.A.	–

ANNEX B (Continued)

Marking Requirement Examples

B18.5 ***Identification Plate and Body Marking Examples Conforming to Standards Other than ASME B16.34***

B18.5.1 An NPS 2, 720 psi at 1350 °F rated, cast chromium-nickel-molybdenum stainless steel (ASTM A351 CF8M) check valve.

	I.D. Plate Marking	**Body Marking**
Mfr's name or trademark	AB CO	AB CO
Material designation	CF8M	CF8M
Rating designation	720 AT 1350F	720 AT 1350F
Service limitation	–	–
Melt identification	–	000
Trim identification (disc-seat)	DISC 18-8SMO – SEAT INT	–
Size	–	2

B18.5.2 An NPS 6, 500 psi at 500 °F rated, cast chromium-nickel-molybdenum-copper stainless steel (ASTM A351 CN7M) gate valve, with integral trim.

	I.D. Plate Marking	**Body Marking**
Mfr's name or trademark	AB CO	AB CO
Material designation	CN7M	CN7M
Rating designation	500 AT 500F	500 AT 500F
Service limitation	–	–
Melt identification	–	000
Trim identification (stem-disc-seats)	*Not Required (see Section 7.1)*	–
Size	–	6
Additional markings	PATENT ###	–

B18.5.3 An NPS 8, 150 psi rated, cast carbon steel (ASTM A216 WCB) butterfly valve, with Nitrile elastomeric seat and seals rated to 200 °F max. and 150 psig max.

	I.D. Plate Marking	**Body Marking**
Mfr's name or trademark	AB CO	AB CO
Material designation	WCB	WCB
Rating designation	150 AT 100F	150 AT 100F
Service limitation	150 AT 200F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seat)	T304 – BRZ – NBR	–
Size	–	8
Additional markings	SEALS VITON	–

B18.5.4 An NPS 16, 150 CWP rated, fabricated carbon steel (ASTM A515 Grade 60) flanged end gate valve where manufacturer limits valve to 50 psig at 800 °F.

	I.D. Plate Marking	**Body Marking**
Mfr's name or trademark	AB CO	AB CO
Material designation	A515 GR 60	A515 GR 60
Rating designation	150 AT 100F	150 AT 100F
Service limitation	50 AT 800F MAX	–
Melt identification	–	000
Trim identification (stem-disc-seats)	T316 – T316 – T316	–
Size	–	16

ANNEX B (Continued)

Marking Requirement Examples

B18.5.5 An NPS 12, Class 300, fabricated carbon steel (ASTM A516 Grade 70) flanged end gate valve with API Trim 3 built in accordance with API 600.

	I.D. Plate Marking	Body Marking
Mfr's name or trademark	AB CO	AB CO
Material designation	A516 GR 70	A516 70
Rating designation	300	300
Melt identification	–	000
Trim identification	TRIM 3	–
Size	–	12

B18.5.6 An NPS 24, ASME Section III Subsection NB, Class 600, cast chromium-nickel-molybdenum steel (ASME SA-351 CF8M) welding end gate valve, for service as a Nuclear Class 1 Component conforming to the requirements of ASME Boiler and Pressure Vessel Code, Section III.

Consult applicable Code for marking requirements.

ANNEX C

Referenced Standards and Applicable Dates

This Annex is an integral part of this Standard Practice and is placed after the main text for convenience.

Standard Name	Description
ASME; ANSI/ASME	
B16.1-2010	Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250
B16.3-2011	Malleable Iron Threaded Fittings: Classes 150 and 300
B16.4-2011	Gray Iron Threaded Fittings: Classes 125 and 250
B16.5-2013	Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard
B16.9-2012	Factory-Made Wrought Buttwelding Fittings
B16.11-2011	Forged Fittings, Socket-Welding and Threaded
B16.12-2009	Cast Iron Threaded Drainage Fittings
B16.14-2010	Ferrous Pipe Plugs, Bushings, and Locknuts with Pipe Threads
B16.15-2011	Cast Copper Alloy Threaded Fittings: Classes 125 and 250
B16.18-2012	Cast Copper Alloy Solder Joint Pressure Fittings
B16.22-2012	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
B16.23-2011	Cast Copper Alloy Solder Joint Drainage Fittings: DWV
B16.24-2011	Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500 and 2500
B16.29-2012	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings – DWV
B16-34-2013	Valves – Flanged, Threaded and Welding End
B16.39-2009	Malleable Iron Threaded Pipe Unions: Classes 150, 250, and 300
B16.42-2011	Ductile Iron Pipe Flanges & Flanged Fittings: Classes 150 and 300
BPVC-2013	Boiler and Pressure Vessel Code
API; API/ANSI	
SPEC 6A-2010	Specification for Wellhead and Christmas Tree Equipment; incl. Addendum 1 (2011), Addendum 2 (2012), Addendum 3 (2013), Errata 1 and 2 (2011), Errata 3 and 4 (2013) (Modified ISO 10423:2009, Petroleum and Natural Gas Industries – Drilling and Production Equipment – Wellhead and Christmas Tree Equipment)
SPEC 6D-2008	Specification for Pipeline Valves; incl. Addendum 1 (2009), Addendum 2 (2011), Addendum 3 (2012), Errata 1 and 2 (2008), Errata 3 (2009), Errata 4 (2010), Errata 5 (2010), and Errata 6 (2011) (Identical to ISO 14313:2007, Petroleum and Natural Gas – Industries Pipeline Transportation Systems – Pipeline Valves)
600-2009	Steel Gate Valves – Flanged and Butt-welding Ends, Bolted Bonnets; incl. Errata 1 (2009)
ASTM	**Standard Specification for:**
A105/A105M-12	Carbon Steel Forgings for Piping Applications
A126-04(2009)	Gray Iron Castings for Valves, Flanges, and Pipe Fittings
A182/A182M-12b	Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service

ANNEX C (Continued)

Referenced Standards and Applicable Dates

This Annex is an integral part of this Standard Practice and is placed after the main text for convenience.

ASTM	Standard Specification for:
A216/A216M-12	Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service
A217/A217M-12	Steel Castings, Martensitic Stainless and Alloy, for Pressure-Containing Parts, Suitable for High-Temperature Service
A234/A234M-11a	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service
A240/A240M-12a	Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
A351/A351M-12b	Castings, Austenitic, for Pressure-Containing Parts
A352/A352M-06(2012)	Steel Castings, Ferritic and Martensitic, for Pressure-Containing Parts, Suitable for Low-Temperature Service
A395/A395M-99(2009)	Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures
A403/A403M-12	Wrought Austenitic Stainless Steel Piping Fittings
A420/A420M-10a	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service
A515/A515M-10	Pressure Vessel Plates, Carbon Steel, for Intermediate- and Higher-Temperature Service
B61-08	Steam or Valve Bronze Castings
B62-09	Composition Bronze or Ounce Metal Castings
B148-97(2009)	Aluminum-Bronze Sand Castings
B361-08	Factory-Made Wrought Aluminum and Aluminum-Alloy Welding Fittings
B363-06a	Seamless and Welded Unalloyed Titanium and Titanium Alloy Welding Fittings
B366-10a	Factory-Made Wrought Nickel and Nickel Alloy Welding Fittings
B584-12a	Copper Alloy Sand Castings for General Applications
MSS; ANSI/MSS	
SP-43-2013	Wrought and Fabricated Butt-Welding Fittings for Low Pressure, Corrosion Resistant Applications
SP-44-2010	Steel Pipeline Flanges; incl. Errata (2011)
SP-75-2008	Specification for High-Test, Wrought, Butt-Welding Fittings
SP-83-2006	Class 3000 Steel Pipe Unions Socket Welding and Threaded
SP-104-2012	Wrought Copper Solder Joint Pressure Fittings
SP-114-2007	Corrosion Resistant Pipe Fittings Threaded and Socket Welding Class 150 and 1000

ANNEX C (Continued)

Referenced Standards and Applicable Dates

This Annex is an integral part of this Standard Practice and is placed after the main text for convenience.

The following organizations appear on the previous pages of this annex or are referenced in this Standard Practice:

AISI American Iron and Steel Institute
1140 Connecticut Ave., NW, Suite 705
Washington, DC 20036-4011

ANSI American National Standards Institute, Inc.
25 West 43rd Street, Fourth Floor
New York, NY 10036-7406

API American Petroleum Institute
1220 L Street, NW
Washington, DC 20005-4070

ASME American Society of Mechanical Engineers (ASME International)
Two Park Avenue
New York, NY 10016-5990-5990

ASTM ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

AWWA American Water Works Association
6666 West Quincy Avenue
Denver, CO 80235-3098

FM FM Global (FM Approvals)
270 Central Avenue, P.O. Box 7500
Johnston, RI 02919-4923

MSS Manufacturer's Standardization Society of the Valve and Fittings Industry, Inc.
127 Park Street, NE
Vienna, VA 22180-4602

SAE SAE International
400 Commonwealth Drive
Warrendale, PA 15096-0001

UL Underwriter's Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2002

Listing of MSS Standard Practices (as of January, 2014)

TITLE	
SP-6-2012	Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings
SP-9-2013	Spot Facing for Bronze, Iron, and Steel Flanges
SP-25-2013	Standard Marking System for Valves, Fittings, Flanges, and Unions
SP-42-2013	Corrosion-Resistant Gate, Globe, Angle, and Check Valves with Flanged and Butt Weld Ends (Classes 150, 300 & 600)
SP-43-2013	Wrought and Fabricated Butt-Welding Fittings for Low Pressure, Corrosion Resistant Applications
SP-44-2010	Steel Pipeline Flanges (incl. 2011 Errata Sheet)
SP-45-2003	(R 2008) Bypass and Drain Connections
SP-51-2012	Class 150LW Corrosion Resistant Flanges and Cast Flanged Fittings
SP-53-2012	Quality Standard for Steel Castings and Forgings for Valves, Flanges, Fittings, and Other Piping Components – Magnetic Particle Examination Method
SP-54-2013	Quality Standard for Steel Castings and Forgings for Valves, Flanges, Fittings, and Other Piping Components – Radiographic Examination Method
SP-55-2011	Quality Standard for Steel Castings for Valves, Flanges, Fittings, and Other Piping Components – Visual Method for Evaluation of Surface Irregularities **(ANSI-approved American National Standard)**
SP-58-2009	Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation (incorporates content of SP-69, 77, 89, and 90) **(ANSI-approved American National Standard)**
SP-60-2012	Connecting Flange Joints between Tapping Sleeves and Tapping Valves
SP-61-2013	Pressure Testing of Valves
SP-65-2012	High Pressure Chemical Industry Flanges and Threaded Stubs for Use with Lens Gaskets
SP-67-2011	Butterfly Valves
SP-68-2011	High Pressure Butterfly Valves with Offset Design
SP-69-2003	Pipe Hangers and Supports – Selection and Application **(ANSI-approved American National Standard)**
SP-70-2011	Gray Iron Gate Valves, Flanged and Threaded Ends
SP-71-2011	Gray Iron Swing Check Valves, Flanged and Threaded Ends (incl. 2013 Errata Sheet)
SP-72-2010a	Ball Valves with Flanged or Butt-Welding Ends for General Service
SP-75-2008	Specification for High-Test, Wrought, Butt-Welding Fittings
SP-78-2011	Gray Iron Plug Valves, Flanged and Threaded Ends
SP-79-2011	Socket Welding Reducer Inserts
SP-80-2013	Bronze Gate, Globe, Angle, and Check Valves
SP-81-2013	Stainless-Steel or Stainless-Steel-Lined, Bonnetless, Knife Gate Valves with Flanged Ends
SP-83-2006	Class 3000 Steel Pipe Unions Socket Welding and Threaded
SP-85-2011	Gray Iron Globe & Angle Valves, Flanged and Threaded Ends
SP-86-2009	Guidelines for Metric Data in Standards for Valves, Flanges, Fittings, and Actuators (Incl. 2011 Errata Sheet)
SP-87-1991	(R 1996 – Reinstated 2011) Factory-Made Butt-Welding Fittings for Class I Nuclear Piping Applications
SP-88-2010	Diaphragm Valves
SP-91-2009	Guidelines for Manual Operation of Valves
SP-92-2012	MSS Valve User Guide
SP-93-2008	Quality Standard for Steel Castings and Forgings for Valves, Flanges, Fittings, and Other Piping Components – Liquid Penetrant Examination Method
SP-94-2008	Quality Standard for Ferritic and Martensitic Steel Castings for Valves, Flanges, Fittings, and Other Piping Components – Ultrasonic Examination Method
SP-95-2006	Swage(d) Nipples and Bull Plugs
SP-96-2011	Guidelines on Terminology for Valves and Fittings
SP-97-2012	Integrally Reinforced Forged Branch Outlet Fittings – Socket Welding, Threaded, and Buttwelding Ends
SP-98-2012	Protective Coatings for the Interior of Valves, Hydrants, and Fittings
SP-99-2010	Instrument Valves
SP-100-2009	Qualification Requirements for Elastomer Diaphragms for Nuclear Service Diaphragm Valves
SP-101-1989	(R 2001) Part-Turn Valve Actuator Attachment – Flange and Driving Component Dimensions and Performance Characteristics
SP-102-1989	(R 2001) Multi-Turn Valve Actuator Attachment – Flange and Driving Component Dimensions and Performance Characteristics
SP-104-2012	Wrought Copper Solder-Joint Pressure Fittings
SP-105-2010	Instrument Valves for Code Applications
SP-106-2012	Cast Copper Alloy Flanges and Flanged Fittings: Class 125, 150, and 300
SP-108-2012	Resilient-Seated Cast Iron Eccentric Plug Valves
SP-109-2012	Weld-Fabricated Copper Solder-Joint Pressure Fittings (incl. 2012 Errata Sheet)
SP-110-2010	Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends (incl. 2010 Errata Sheet)
SP-111-2012	Gray-Iron and Ductile-Iron Tapping Sleeves
SP-112-2010	Quality Standard for Evaluation of Cast Surface Finishes – Visual and Tactile Method. This SP must be used with a 10-surface, three dimensional Cast Surface Comparator, which is a necessary part of the standard. Additional Comparators available separately.
SP-113-2012	Connecting Joints between Tapping Machines and Tapping Valves
SP-114-2007	Corrosion Resistant Pipe Fittings Threaded and Socket Welding Class 150 and 1000 **(ANSI-approved American National Standard)**
SP-115-2010	Excess Flow Valves, 1¼ NPS and Smaller, for Fuel Gas Service
SP-116-2011	Service-Line Valves and Fittings for Drinking Water Systems
SP-117-2011	Bellows Seals for Globe and Gate Valves
SP-119-2010	Factory-Made Wrought Belled End Pipe Fittings for Socket-Welding
SP-120-2011	Flexible Graphite Packing System for Rising Stem Valves – Design Requirements
SP-121-2006	Qualification Testing Methods for Stem Packing for Rising Stem Steel Valves
SP-122-2012	Plastic Industrial Ball Valves
SP-123-2013	Non-Ferrous Threaded and Solder-Joint Unions for Use with Copper Water Tube
SP-124-2012	Fabricated Tapping Sleeves
SP-125-2010	Gray Iron and Ductile Iron In-Line, Spring-Loaded, Center-Guided Check Valves
SP-126-2013	In-Line, Spring-Assisted, Center-Guided Check Valves (Carbon, Alloy Steel, Stainless Steel, & Nickel Alloys)
SP-127-2014	Bracing for Piping Systems: Seismic-Wind-Dynamic Design, Selection, and Application
SP-128-2012	Ductile Iron Gate Valves
SP-129-2003	(R 2007) Copper-Nickel Socket-Welding Fittings and Unions
SP-130-2013	Bellows Seals for Instrument Valves
SP-131-2010	Metallic Manually Operated Gas Distribution Valves
SP-132-2010	Compression Packing Systems for Instrument Valves
SP-133-2010	Excess Flow Valves for Low Pressure Fuel Gas Appliances
SP-134-2012	Valves for Cryogenic Service, including Requirements for Body/Bonnet Extensions
SP-135-2010	High Pressure Knife Gate Valves
SP-136-2007	Ductile Iron Swing Check Valves
SP-137-2013	Quality Standard for Positive Material Identification of Metal Valves, Flanges, Fittings, and Other Piping Components
SP-138-2009	Quality Standard Practice for Oxygen Cleaning of Valves & Fittings
SP-139-2010	Copper Alloy Gate, Globe, Angle, and Check Valves for Low Pressure/Low Temperature Plumbing Applications
SP-140-2012	Quality Standard Practice for Preparation of Valves and Fittings for Silicone-Free Service
SP-141-2012	Multi-Turn and Check Valve Modifications
SP-142-2012	Excess Flow Valves for Fuel Gas Service, NPS 1½ through 12
SP-143-2012	Live-Loaded Valve Stem Packing Systems
SP-144-2013	Pressure Seal Bonnet Valves
SP-145-2013	Metal Ball Valves for Low Pressure/Low Temperature Plumbing Applications

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