Quality Standard for Steel Castings for Valves, Flanges, Fittings, and Other Piping Components

Radiographic Examination Method
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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 1999 (R 2007) 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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**ANNEX**

A    Referenced Standards and Applicable Dates    3
Listing of MSS Standard Practices (as of March, 2013)

- 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-25-2008 Standard Marking System for Valves, Fittings, Flanges, and Unions
- SP-42-2009 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 150/LW 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-60-2012 Connecting Flange Joints between Tapping Sleeves and Tapping Valves
- SP-61-2009 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-81-2009a Stainless Steel, Bonnetless, Flanged Knife Gate Valves
- SP-85-2006 Class 3000 Steel Pipe Unions Socket Welding and Threaded
- SP-87-2011 Gray Iron Globe & Angle Valves, Flanged and Threaded Ends
- SP-90-1989 (R 2001) Multi-Turn Valve Actuator Attachment – Flange and Driving Component Dimensions and Performance Characteristics
- SP-91-2009 Qualification Requirements for Elastomer Diaphragms for Nuclear Service Diaphragm 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 Penetran 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 Swaged Nipples and Ball 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-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, ½ 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 Bellied 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-123-1998 (R 2006) 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-126-2007 Steel In-Line Spring-Assisted Center Guided Check Valves
- SP-128-2012 Ductile Iron Gate Valves
- SP-130-2003 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-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 ½ through 12
- SP-143-2012 Live-Loaded Valve Stem Packing Systems
- SP-144-2013 Pressure Seal Bonnet Valves

(R YEAR) Indicates year reaffirmed • Price List Available Upon Request • MSS is an ANSI-accredited American National Standards developer

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