

GP 03-10-01	Piping Selection and Design Criteria	December 2004
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Piping Selection and Design Criteria

GP 03-10-01

Scope

- 1) [I] This Practice covers criteria for metallic piping selection and design.
 - 2) [I] An asterisk (*) indicates that additional information is required. If a job is contracted, this additional information is furnished in the Job Specification.
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1. Required References

[I] This Section lists Practices and Standards that are generically referenced and assumed to be a part of this document. Unless otherwise specified herein, use the latest edition. Where specific references to ASME, ANSI, API, or ASTM requirements are made in this Practice, the Owner's Engineer may authorize the use of equivalent or more stringent provisions of other applicable recognized codes or standards.

1.1. Global Practices–ExxonMobil Engineering Practices

GP 03-18-01	Piping Fabrication Shop or Field
GP 18-10-01	Additional Requirements for Materials

1.2. AWWA–American Water Works Association

AWWA C110/A21.10	Ductile-Iron and Gray-Iron Fittings, 3 in. Through 48 in. (76 mm Through 1219 mm), for Water
AWWA C111/A21.11	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C151/A21.51	Ductile-Iron Pipe, Centrifugally Cast, for Water

1.3. API–American Petroleum Institute

API SPEC 5L	Specification for Line Pipe
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1.4. ASME–American Society of Mechanical Engineers

ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B16.3	Malleable Iron Threaded Fittings Classes 150 and 300
ASME B16.5	Pipe Flanges and Flanged Fittings NPS 1/2 Through NPS 24
ASME B16.9	Factory-Made Wrought Buttwelding Fittings
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME B16.39	Malleable Iron Threaded Pipe Unions Classes 150, 250, and 300
ASME B16.47	Large Diameter Steel Flanges NPS 26 Through NPS 60
ASME B31.3	Process Piping



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1.5. ASTM–American Society for Testing and Materials

ASTM A 53/A 53M	Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 106	Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service
ASTM A 312/A 312M	Standard Specification for Seamless and Welded Austenitic Stainless Steel Pipes
ASTM A 333/A 333M	Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service
ASTM A 335/A 335M	Standard Specification for Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service
ASTM A 358/A 358M	Standard Specification for Electric-Fusion-Welded Austenitic Chromium-Nickel Alloy Steel Pipe for High-Temperature Service
ASTM A 426	Standard Specification for Centrifugally Cast Ferritic Alloy Steel Pipe for High-Temperature Service
ASTM A 451	Standard Specification for Centrifugally Cast Austenitic Steel Pipe for High-Temperature Service
ASTM A 671	Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures
ASTM A 672	Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures
ASTM A 691	Standard Specification for Carbon and Alloy Steel Pipe, Electric-Fusion-Welded for High-Pressure Service at High Temperatures
ASTM B 165	Standard Specification of Nickel-Copper Alloy (UNS N04400) Seamless Pipe and Tube
ASTM B 167	Standard Specification for Nickel-Chromium-Iron Alloys (UNS N06600, N06601, N06603, N06690, N06693, N06025, and N06045) and Nickel-Chromium-Cobalt-Molybdenum Alloy (UNS N06617) Seamless Pipe and Tube
ASTM B 241/B 241M	Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube
ASTM B 407	Standard Specification for Nickel-Iron-Chromium Alloy Seamless Pipe and Tube
ASTM B 423	Standard Specification for Nickel-Iron-Chromium-Molybdenum-Copper Alloy (UNS N08825 and N08221) Seamless Pipe and Tube
ASTM B 444	Standard Specification for Nickel-Chromium-Molybdenum-Columbium Alloys (UNS N06625 and UNS N06852) and Nickel-Chromium-Molybdenum- Silicon Alloy (UNS N06219) Pipe and Tube

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