

Table 10.3.2-3 Main Steam and Feedwater Piping Design Data (Sheet 1 of 2)

Main Steam Piping

Segment	Material specification	Nominal OD	ASME Class
SG outlet to containment penetration	SA-106 Grade B <del>333</del> , Grade 6 (Seamless)	32 inch	Section III, Class 2
Containment penetration to MSIV	SA-106 Grade B <del>333</del> , Grade 6 (Seamless)	32 inch	Section III, Class 2
MSIV to main steam/feedwater piping area wall	SA-106 Grade B <del>333</del> , Grade 6 (Seamless)	32 inch	Section III, Class 3
Fittings	SA-181, Gr. 70 or SA-106 Grade B <del>333</del> , Grade 6 (Seamless)	32 inch	Note: Material Spec. for fittings and valves is same between ASME Section III Class 2 and 3.
Valves (Globe, Gate, Check)	SA-352, Grade LCB		
Main steam steam/feedwater piping area wall to equalization piping	ASTM A-672 Grade B60	32 inch	B31.1
Equalization piping	ASTM A-672 Grade B60	28 inch & 42 inch	
Lines to TSV	ASTM A-672 Grade B60	32 inch & 30 inch	
Fittings	ASTM A-105, A-672 Grade B60	28 inch, 32 inch, 42 inch	
Flanges	ASTM A-105		
Valves (Globe, Gate, Check)	ASTM A-181 Grade 70 or ASTM A-216 Grade WCB, Class 900		

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**Table 10.3.2-4 Main Steam Branch Piping Design Data (2.5-INCH AND LARGER)**

Segment	Material specification	Nominal OD	ASME Class
Main steam piping to MSRV/MSDV	SA-106 Grade B <del>333-Grade-6</del> (Seamless)	6 inch	Section III, Class 2
MSRV/MSDV discharge piping to main steam/feedwater piping area wall	SA-106 Grade A	6 inch & 12 inch	Section III, Class 3
Main steam piping to MSSV	SA-106 Grade B <del>333-Grade-6</del> (Seamless)	6 inch	Section III, Class 2
MSSV discharge piping to main steam/feedwater piping area wall	SA-106 Grade A (Welded)	12 inch 16 inch	Section III, Class 3
Main steam piping to turbine-driven EFW pump turbine steam isolation valve	SA-106 Grade B <del>333-Grade-6</del> (Seamless)	6 inch	Section III, Class 2
EFW pump turbine steam isolation valve to turbine-driven EFW pump steam turbine	SA-106 Grade B <del>333-Grade-6</del> (Seamless)	6 inch	Section III, Class 3
Fittings	SA-105 or SA-106 Grade B <del>333-Grade-6</del>	6 inch 12 inch 16 inch	Note: Material Spec. for fittings, flanges and valves is same between ASME Section III Class 2 and 3.
Flanges	SA-105		
Valves (Globe, Gate, Check)	SA-216 Grade WCB, Class 900 or SA-181 Grade 70		
MSRV/MSDV discharge piping outside main steam/feedwater piping area	A-106 Grade A	12 inch	B31.1
MSSV discharge piping outside main steam/ feedwater piping area	A-106 Grade A	16 inch	
Fittings	ASTM A-105 or A-106 Grade A	12 inch 16 inch	
Flanges	ASTM A-105 (or equal), Class 150		
Valves (Globe, Gate, Check)	ASTM A-105, ASTM A-216, Grade WCB (or equal), Class 150		
Reheating steam to moisture separator reheater	ASTM A-691 Grade 2 1/4 CR	46 inch	B31.1
Fittings	ASTM A-387 Grade 22		
Flanges	ASTM A-182 F22		
Valves (Globe, Gate, Check)	ASTM A-182 F22 or ASTM A-217 Grade WC9, Class 900		

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**Table 10.3.2-5 ASME Material Specifications with Filler Metal Specifications and Classification for each Welding Process**

ASME Material Specification	Mat' l P #	Mat' l Group #	Tensile Strength (ksi)	Filler Metal (Note 7)							
				GTAW/GMAW (Note 1)		SMAW (Note 2)		FCAW (Note 3)		SAW (Note 4)	
				ASME Specification	Classification	ASME Specification	Classification	ASME Specification	Classification	ASME Specification	Classification
SA-333 Grade 6	1	1	60	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-672 Grade B60	1	1	60	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-335 Grade P22	5A	1	60	SFA-5.28	ER90S-B3	SFA-5.5	E9018-B3	SFA-5.29	E91T1-B3M	SFA-5.23	F9A2-EB3-B3
SA-182 F22	5A	1	Note 5	SFA-5.28	ER90S-B3	SFA-5.5	E9018-B3	SFA-5.29	E91T1-B3M	SFA-5.23	F9A2-EB3-B3
SA-217 Grade WC9	5A	1	70	SFA-5.28	ER90S-B3	SFA-5.5	E9018-B3	SFA-5.29	E91T1-B3M	SFA-5.23	F9A2-EB3-B3
SA-508 Grade 1	1	2	70	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-352 Grade LCB	1	1	65	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-106 Grade B	1	1	60	SFA-5.18	ER70S-2 <u>ER70S-6</u>	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-106 Grade A	1	1	48	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-387 Grade 22	5A	1	Note 6	SFA-5.28	ER90S-B3	SFA-5.5	E9018-B3	SFA-5.29	E91T1-B3M	SFA-5.23	F9A2-EB3-B3
SA-672 Grade C60	1	1	60	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-105	1	2	70	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-216 Grade WCB	1	2	70	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K
SA-266 Grade 2	1	2	70	SFA-5.18	ER70S-2	SFA-5.1	E7018	SFA-5.20	E71T-1	SFA-5.17	F7A2-EM12K

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