

**ASTM A213 and ASME SA213 American Standard (Seamless Ferrite and Austenitic Alloy Steel Pipe for Boiler, Superheater and Heat Exchanger)**

**Standard:**

ASTM A213/A213M/ASME SA213/SA-213M

**Application:**

It is applied to seamless ferrite and austenitic steel pipe for boiler and superheater with the minimum wall thickness and austenitic steel pipe for heat exchanger.

**Grades of Main Steel Pipe:**

T11, T12 and T22, other grades of steel pipe can be provided based on negotiations.

**Mechanical Properties**

Standard	Grade	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)
ASTM A213 ASME SA213	T11	≥415	≥170	≥30
	T12	≥415	≥205	≥30
	T22	≥415	≥205	≥30

**Chemical Composition**

Standard	Grade	C	Si	Mn	P、S	Cr	Mo	V	Cu	Ni
ASTM A213 ASME SA213	T11	0.05~0.15	0.50~1.00	0.30~0.60	≤0.025	1.00~1.50	0.44~0.65	/	/	/
	T12	0.05~0.15	≤0.50	0.30~0.61	≤0.025	0.80~1.25	0.44~0.65	/	/	/
	T22	0.05~0.15	≤0.50	0.30~0.60	≤0.025	1.90~2.60	0.87~1.13	/	/	/

**Remarks**

HR: hot rolled	CW: cold worked	SR: stress relieved
A: annealed	N: normalized	HF