ASTM A178

●Production Standard of ASTM A178

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Production Standard of ASTM A178

●ASTM A178

ASTM A106 pipes (ASME SA106 pipes) are seamless pressure pipes with widespread applications in the infrastructure of oil and gas refineries, power plants, petrochemical facilities, boilers, and marine vessels. These pipes serve the critical function of transporting fluids and gases under elevated temperature and pressure conditions.

●Dimensions and Sizes of ASTM A178

Standard	ASTM A178/A178M
Procedure	ERW
Dimensions	12.7mm – 127mm
	1/2″ – 5″
Thickness	0.9mm – 9.1mm
Unit Length	3 – 12 mtrs
Steel Grade	ASTM A178 Gr. A
	ASTM A178 Gr. C
	ASTM A178 Gr. D
Surface Coating	Black lacquer coating,Varnishing, Oiling, Hot Dip Galvanizing
	FBE, 2PP, 3PP, 2PE, 3PE

End Type	Plain, Bevelled, Threaded, Grooved， Shouldered
Joint Method	Fitting, Flange, Coupling, Clamp, Pipe Shoulder, Welding
Pipe Machining	Welding, Bending, Hole Drilling, Punching, Swaging, Tapering, Flaring, Expanding

●Chemical Composition of ASTM A178

Chemical Requirements			
	Composition, %		
Element	**Grade A, Low-Carbon Steel**	**Grade C, Medium-Carbon Steel**	**Grade D, Carbon-Manganese Steel**
Carbon	0 06–0 18	0 35 max	0 27 max
Manganese	0.27–0.63	0.80 max	1.00– 1.50
Phosphorus, max	0 035	0 035	0 030
Sulfur, max	0.035	0.035	0.015
Silicon	…	…	0. 10 min

●Mechanical Properties Tensile Strength and Yield Strength of ASTM A178

Tensile Requirements			
	Grade A	**Grade C**	**Grade D**
Tensile strength, min, ksi [MPa]	47 [325]	60 [415]	70 [485]
Yield strength, min, ksi [MPa]	26 [180]	37 [255]	40 [275]
Elongation in 2 in. or 50 mm, min, %	35	30	30

For longitudinal strip tests a deduction for each 1⁄32-in. [0.8 mm] decrease in wall thickness below 5⁄16 in. [8 mm] from the basic minimum elongation of the following percentage points shall be made.		1.50A	1.50A
A See Table 3 for the computed minimum values.			