

PIPING MATERIALS

Minimum Wall Thickness for Steel Pipes

The table shows the classification society requirement regarding minimum wall thickness for low-pressure steel pipes & materials used for different media:

Pipe sizing and wall thickness

Nominal Pipe Size (mm.)	Outside Diameter (mm.)	Iron Pipe Size	Pipe Schedule	Wall thickness (mm.)	Inside Diameter (mm.)
2.54	3.49	Std	40	0.34	2.66
		XS	80	0.45	2.43
		-	160	0.64	2.07
		XXS	-	0.91	1.52
5.08	6.03	Std	40	0.39	5.25
		XS	80	0.55	4.93
		-	160	0.87	4.29
		XXS	-	1.11	3.82
10.16	11.43	Std	40	0.60	10.23
		XS	80	0.86	9.72
		-	160	1.35	8.73
		XXS	-	1.71	8.01
15.24	16.83	Std	40	0.71	15.41
		XS	80	1.10	14.63
		-	160	1.82	13.18
		XXS	-	2.19	12.44
20.32	21.91	Std	40	0.82	20.04
		XS	80	1.27	19.37
		XXS	-	2.22	17.46
		-	-	-	-
30.48	32.39	Std	-	0.95	30.48
		-	40	1.03	30.32
		XS	-	1.27	29.85
		-	80	1.75	28.90
35.56	35.56	Std	-	0.95	33.66
		-	40	1.11	33.34
		XS	-	1.27	33.02
		-	80	1.91	31.75

Piping Materials

Service	Commercial Application	U.S. Navy Application
Seawater (dry fire main, bilge, ballast)	Carbon steel galvanized steel	90% copper- 10 % nickel GRP (non-vital)

Seawater (flooded)	90% copper- 10 % nickel GRP (non-vital)	90% copper- 10 % nickel GRP (non-vital)
Freshwater cooling	Carbon Steel GRP	Stainless steel 90-10 copper-nickel
Potable water	Copper PVC GRP	Copper GRP
Chilled Water	Copper PVC GRP	90% copper- 10 % nickel Copper GRP
Lube Oil	Carbon Steel	Carbon Steel Stainless Steel
Fuel (diesel, residual)	Carbon Steel	Carbon Steel
Cargo Oil	Carbon Steel Ductile iron	Carbon Steel
Steam	Alloy steel Carbon Steel	Alloy steel Carbon Steel
Condensate	Carbon Steel Copper	Carbon Steel
Feed water	Carbon Steel	Carbon Steel
Plumbing drains (fresh water)	Carbon Steel PVC GRP	Copper
Plumbing drains (sea water)	Carbon Steel PVC GRP	90% copper- 10 % nickel
Compressed air	Carbon Steel Copper	90% copper- 10 % nickel Copper Stainless steel
Hydraulics	Carbon steel Stainless steel Copper	Carbon steel Stainless steel Copper 90% copper- 10 % nickel
CO2 fire extinguishing	Carbon steel	Copper carbon steel
Foam fire extinguishing	Carbon steel	90% copper- 10 % nickel
Halon	Carbon steel Galvanized steel	90% copper- 10 % nickel Stainless steel
Cryogenic fluids	Stainless steel	Stainless steel

