

DATA SHEET – CARBON STEEL PIPE AND FITTINGS-GENERAL SERVICE

Item	Size	Description
Pipe	All	Black carbon steel, ASTM A106, Grade B seamless or ASTM A53, Grade B, or AWWA C200 with ASTM A36 plate, seamless or ERW. Threaded, butt-welded, grooved end, and flanged joints:
	Screwed:	
	50 mm & smaller	Schedule 80.
	Welded and Grooved:	
	50 mm thru 250 mm	Schedule 40.
	300 mm thru 400 mm	Schedule 30.
	450 mm thru 900 mm	Standard weight (9.5 mm min. wall thickness).
Joints	40 mm & smaller	Threaded or flanged at valves and equipment or grooved end meeting the requirements of AWWA C606.
	50 mm & larger	Butt-welded or flanged at valves and equipment, or grooved end meeting the requirements of AWWA C606.
Fittings	40 mm & smaller	Threaded: 68- or 2070 kPag malleable iron, ASTM A197 or ASTM A47, dimensions in accordance with ANSI B16.3. Grooved End: Malleable iron ASTM A47 or ductile iron ASTM A536, grooved ends to accept couplings without field preparation, EPDM elastomers for potable water service, rigid style coupling or as otherwise noted. Victaulic; Grinnell.
	50 mm & larger	Butt Welded: Wrought carbon steel butt- welding, ASTM A234/A234M, Grade WPB meeting the requirements of ANSI B16.9; fitting wall thickness to match adjoining pipe; long radius elbows unless shown otherwise. Grooved End: Malleable iron ASTM A47 or ductile iron ASTM A536, grooved ends to accept couplings without field preparation, EPDM elastomers for potable water service, rigid style coupling or as otherwise noted. Victaulic; Grinnell. Victaulic Depend-O-Lok, AWWA C221, EPDM elastomer, epoxy coated steel or 316 stainless steel wetted parts, restrained or non-restrained coupling as indicated on Drawings.
Branch Connections	40 mm & smaller	Threaded, straight, or reducing tees in conformance with Fittings specified above.
	50 mm & larger	Butt-welding or grooved end tee in conformance with Fittings specified above.

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Flanges	40 mm & smaller	Forged carbon steel, ASTM A105/A105M, Grade II, ANSI B16.5 Class 150 socket-weld or threaded, 1.5 mm raised face.
	50 mm & larger	Butt-Welded Systems: Forged carbon steel, ASTM A105/A105M or AWWA C207 Class D, ANSI B16.5 Class 150 slip-on or welding neck, 1.5 mm raised face; weld neck bore to match pipe internal diameter. Use weld neck flanges when abutting butt-weld fittings. As an alternative, flanges may be AWWA C207, Class D slip-on with serrated finish. Provide flat-faced flanges when mating with flat-faced valves and fittings. Grooved End Adapter Flange: Malleable iron ASTM A47 or ductile iron ASTM A536. Victaulic; Grinnell.
Blind Flanges	All	
Unions	40 mm & smaller	Threaded malleable iron, ASTM A197 or A47, 1035- or 2070 kPag WOG, meeting the requirements of ANSI B16.3.
Couplings	50 mm & larger	Grooved End: Rigid joint malleable iron, ASTM A47 or ductile iron, ASTM A536. Victaulic; Grinnell. Screwed End: Malleable iron, ASTM A197 or A47.
Bolting	Exposed piping	Flanges: Carbon steel ASTM A307, Grade A hex head bolts and ASTM A563, Grade A hex head nuts. Use 3 mm undersize bolting material for insulating flanges. Grooved End Couplings: Carbon steel, ASTM A183 bolts and nuts, 760 MPa minimum tensile strength.
	Submerged and underground	General Conditions: Type 316, ASTM A193/A193M, Grade B8M hex head bolts and ASTM A194/A194M Grade 8M hex head nuts.
Gaskets	50 mm thru 250 mm	Black neoprene, 2 mm thick, ring type for RF flanges, full face for flat face flanges.
	300 mm thru 450 mm	Black neoprene, 3 mm thick, ring type for RF flanges, full face for flat face flanges.
	500 mm and larger	Black neoprene, 6 mm thick, ring type for RF flanges, full face for flat face flanges.
		Grooved Couplings: EPDM per ASTM D2000 for water and air to 110°C.
	All	Flange insulation gaskets
Thread Lubricant	40 mm & smaller	General Service: Teflon tape.

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Notes:

1. When indicated in the Piping Schedule, provide internal/external epoxy coating as specified.
2. Do not use threaded connections on epoxy coated pipe. For small tappings such as vents, drains and gauge connections, provide a 50 mm flanged nozzle with a coated blind flange tapped to the size of the required connection.

END OF SECTION