The wall thickness of the piping components shall be determined by the Design Engineer considering the applicable design conditions with ASME B 31.3 code.

Piping shall be capable to withstand satisfactorily all resultant forces exerted by normal pressures and any surge pressures, which may arise from sudden reversal of flow during starting up or shutting down of any portion of the system.

Material grades, wall thickness, branch connections, etc. shall be as per applicable drawings. No corrosion allowance considered for stainless steel pipes and fittings.

23.2.2 Pipes

Pipes shall conform to ASTM A 312/A 312M TP 316 Seamless quality, unless specifically mentioned otherwise.

All pipe sizes shall be designated as nominal pipe sizes (NPS) only. The following range of nominal pipe sizes shall be used. Outside diameter of pipe shall meet the requirements of ASME B 36.19.

Nominal Pipe Size

Metric (mm)	Equivalent to	Inch
DN 15		½
DN 20		¾
DN 25		1
DN 40		1 ½
DN 50		2
DN 65		2 ½

23.2.3 Fittings

Fittings shall conform to ASME B16.9 and shall be seamless. Elbows with butt welded ends shall be long radius type (radius equals 1.5 times the nominal pipe size). Short radius elbows shall not be used. For diameters < DN 40 forged 45°, 90° elbows shall be used.

Minimum branch connection size on the pipeline shall be DN 25. Smaller sizes if required shall be reduced from DN 25.