

6.15 Material, Size and Pressure Rating of Pipelines

The water distribution networks shall be designed for Allowable Operating Pressure (PFA) of 10 bars. PFA, as defined by EN 545 and ISO 2531, is the internal pressure excluding water hammer that a component can safely and continuously withstand under permanent hydraulic service). Higher design pressure (PFA) may be considered in some cases defined by AADC. The maximum static pressure in network shall not exceed the design pressure at any point

Generally the pipes of water distribution networks shall be High Density Polyethylene (HDPE) PE100 of pressure rating PN 10 (SDR 17) for the sizes up to 600 mm. For the sizes above 600 mm Ductile Iron (DI) pipes shall be used. The pressure rating of the DI pipes and fitting shall be as per ADWEA standard specifications.

Table 6: Material and pressure rating of Water Distribution Pipelines

FNo.	Pipelines Size (mm)	Material	Pressure Rating	Remarks
1	100 to 600	HDPE	PN 10 (SDR17)	PN 16 (SDR11) may be used in certain justified condition.
2	> 600	Ductile Iron	As per ADWEA Specifications	K9 or C Class for pipes,

tile iron pipes suitable internal and external protection methods against corrosion shall be selected to achieve 50 years working life for pipelines. The selection of the required protection method shall be based on the available information on soil conditions or on geotechnical investigations such as soil resistivity test.

All flanges in water distribution networks including the stub flanges at HDPE pipelines shall be drilled to PN 16. The pips and fittings used at connection to SDR 11 HDPE pipeline shall be also SDR 11.

Only Ductile Iron pipes and Ductile Iron/Metal Fittings shall be used inside chambers and exposed pipelines (i.e. pipeline laid above ground). The details of chambers at water distribution networks shall be as per ADWEA and AADC Standard Detail Drawings.

The working pressure of all types of valves, flow meters, strainers, fire hydrants shall be PN 16 as per ADWEA standard specifications.