

- A. Raw material shall be manufacturer member of the PE100+ Association and shall comply with applicable part of ISO4427 latest revision.
- B. For design calculation, pressure, reducing coefficients 4427-1, Annex A are applicable. The thermal stability of polyethylene material shall meet the requirements of ISO 4427.

20.2.1.1 General Requirements

- A. Pipes and fittings shall comply with the requirements of ISO 4427 and only PE100 pipes shall be used. The pressure rating of the fittings shall be the same as, or higher than, that of the pipes. The SDR and pressure rating of the pipes and fittings shall be determined by the designer, based on the operating conditions.
- B. Service life of the pipe and fittings shall be minimum 50 years under normal operating conditions.
- C. When the annual average operational temperature exceeds 20°C, which may occur in hot climates, the designer shall apply a pressure reduction factor to determine the allowable long term operating pressure of the PE100 pipes and fittings. Please note that this will be the steady state operating pressure i.e. excluding any transient or surge pressures.
- D. Once the temperature has been determined, the designer shall consult Table A1 in Annex A of ISO 4427-1, which gives conservative pressure reduction coefficients for elevated operational temperatures, based on ISO13761. These figures shall be used unless a smaller reduction factor can be justified by the resin Manufacturer in accordance with ISO 9080.
- E. The pipe Manufacturer shall identify the Manufacturer of the resin, the resin type and classification. In addition, the Manufacturer shall provide evidence that the resin proposed is suitable for use at the design temperature and under the design pressures indicated.
- F. Pipes and fittings shall be homogenous throughout and free from visible cracks, holes, foreign inclusions, blisters, dents, scoring, cavities and other defects.
- G. Material shall be uniform in opacity, density, interior smoothness and other physical properties. It shall have adequate resistance to weathering and other ageing from storage for a minimum of two years after manufacture.
- H. All pipes shall be black in accordance to relevant sections of ISO 4427 standard.