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Polyethylene (PE) pipes for water supply — Specifications

Tubes en polyéthylène (PE) destinés à l'alimentation en eau — Spécifications

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4427 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 2, *Plastics pipes and fittings for water supplies*.

Annex A forms an integral part of this International Standard.

Polyethylene (PE) pipes for water supply — Specifications

1 Scope

This International Standard specifies the required properties of pipes made from polyethylene (PE) to be used for buried water mains and services and for water supply above ground both inside and outside buildings. In addition, it specifies some general properties of the material from which these pipes are made, including a classification scheme.

This International Standard applies to pipes with a nominal pressure of PN 3,2, PN 4, PN 6, PN 8, PN 10, PN 12,5 and PN 16, and nominal outside diameters from 16 to 1 600 (see ISO 161-1), intended to be used for the conveyance of water under pressure at temperatures between 0 °C and 40 °C for general purposes, as well as for the supply of drinking water.

NOTE 1 — Some countries may require specific colour identification for pipes for water intended for human consumption.

For temperatures between 20 °C and 40 °C, the working pressure factor given in figure 1 shall be applied, provided that extrapolation results obtained in accordance with ISO/TR 9080 show this to be possible.

If PE pipes are used above ground, they should preferably be physically protected against UV light in accordance with recommended practice.

NOTE 2 — For information, certain requirements, figures or remarks are given, which have been extracted from appropriate International Standards.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 161-1:1996, *Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series.*

ISO 1133:1996, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics.*