
**Plastics piping systems for non-pressure
underground drainage and sewerage —
Polypropylene (PP)**

*Systèmes de canalisations en plastique pour les branchements et les
collecteurs d'assainissement enterrés sans pression — Polypropylène
(PP)*



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Published in Switzerland

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8773 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage)*.

This second edition cancels and replaces the first edition (ISO 8773:1991), which has been technically revised.

Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene (PP)

1 Scope

This International Standard specifies the requirements for polypropylene (PP) pipes, fittings and piping systems intended for use for non-pressure underground drainage and sewerage for the conveyance of soil and waste discharge of domestic and industrial origin, as well as surface water.

It covers buried pipework, as well as piping systems buried within the building structure.

In the case of industrial discharge, it is necessary that the chemical and temperature resistance be taken into account, but this will need to be done separately.

This International Standard is applicable to PP pipes with or without an integral socket and to jointing by means of push-fit joints with sealing rings or butt-fused joints.

NOTE 1 Fittings can be manufactured by injection-moulding or fabricated from pipes and/or mouldings.

This International Standard covers PP materials with normal E moduli and with higher E moduli, designated as HM (higher modulus), and gives a range of nominal sizes and pipe series, as well as recommendations concerning colours.

This International Standard also specifies the test parameters for the test methods referred to herein.

NOTE 2 PP materials with normal E moduli have an E modulus of between 1 250 MPa and 1 700 MPa. PP materials with higher E moduli (PP-HM materials) have an E modulus greater than or equal to 1 700 MPa.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 580:2005, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating*

ISO 1133:2005, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics*

ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces*

ISO 2505:2005, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 3127, *Thermoplastics pipes — Determination of resistance to external blows — Round-the-clock method*

ISO 4065, *Thermoplastics pipes — Universal wall thickness table*

ISO 4435, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U)*

ISO 9969, *Thermoplastics pipes — Determination of ring stiffness*

ISO 11173, *Thermoplastics pipes — Determination of resistance to external blows — Staircase method*

EN 1277:2003, *Plastics piping systems — Thermoplastics piping systems for buried non-pressure applications — Test method for leaktightness of elastomeric sealing ring type joints*

EN 1401-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U) — Part 1: Specifications for pipes, fittings and the system*

EN 12061, *Plastics piping systems — Thermoplastics fittings — Test method for impact resistance*

EN 12256, *Plastics piping systems — Thermoplastics fittings — Test method for mechanical strength or flexibility of fabricated fittings*

3 Symbols and abbreviated terms

For the purposes of this document, the following symbols and abbreviated terms apply.

NOTE The symbols are illustrated in Figures 1 to 21.

3.1 Symbols

A	length of engagement
B	length of lead-in
C	depth of sealing zone
d_{em}	mean outside diameter
d_n	nominal outside diameter
d_{sm}	mean inside diameter of socket
d_3	internal diameter of groove
e	wall thickness
e_m	mean wall thickness
e_2	wall thickness of socket
e_3	wall thickness in groove area
f	groove width
H	length of chamfer