
**Thermoplastics pipes for the
conveyance of fluids — Nominal
outside diameters and nominal
pressures —**

**Part 1:
Metric series**

*Tubes en matières thermoplastiques pour le transport des fluides —
Diamètres extérieurs nominaux et pressions nominales —*

Partie 1: Série métrique



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*.

This fourth edition cancels and replaces the third edition (ISO 161-1:1996), which has been technically revised.

The significant changes are:

- Nominal diameters are extended up to 3 000 mm;
- Nominal pressure PN 25 bar is added;
- Nominal pressure PN 6 shall be designed using 6,3 bar; designation based on 6,0 bar is deleted;
- MRS values up to 20 are based on R 10 increments. MRS values above 20 are based on R 20 increments;
- Definitions are updated to follow modern plastics piping terminology.

A list of all the parts in the ISO 161 series, can be found on the ISO website.

Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures —

Part 1: Metric series

1 Scope

This document specifies the nominal outside diameters for metric thermoplastics pipes for the conveyance of fluids in pressure and non-pressure applications. It also specifies nominal pressure ratings and minimum required strengths for pressure applications.

It is applicable to smooth thermoplastics pipes of constant circular cross-section along the whole length of the pipe, whatever their method of manufacture or material of construction.

It is not applicable to pipes designated according to the nominal inside diameter DN/ID.

This document is a basis for standards writers for the selection of nominal diameters and nominal pressures in the drafting of product standards.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3, *Preferred numbers — Series of preferred numbers*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 nominal diameter

3.1.1 nominal size DN

numerical designation of the size of a component, other than a component designated by thread size, which is approximately equal to the manufacturing dimension

Note 1 to entry: Nominal size is expressed in millimetres (mm).