

# INTERNATIONAL STANDARD



161/I

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

## Thermoplastics pipes for the transport of fluids — Nominal outside diameters and nominal pressures — Part I : Metric series

*Tubes en matières thermoplastiques pour le transport des fluides — Diamètres extérieurs nominaux et pressions nominales — Partie I : Série métrique*

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Descriptors : plastic pipes, thermoplastic resins, fluids, dimensions, pressure, metric system.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 161/I was drawn up by Technical Committee ISO/TC 138, *Plastics pipes and fittings for the transport of fluids*, and circulated to the Member Bodies in June 1974.

It has been approved by the Member Bodies of the following countries:

Austria	Israel	Spain
Belgium	Italy	Sweden
Chile	Japan	Switzerland
Czechoslovakia	Mexico	Thailand
Denmark	Norway	Turkey
Finland	Poland	United Kingdom
Germany	Portugal	U.S.A.
India	Romania	U.S.S.R.
Ireland	South Africa, Rep. of	Yugoslavia

The Member Bodies of the following countries expressed disapproval of the document on technical grounds:

France  
Netherlands

This International Standard cancels and replaces ISO Recommendation R 161-1960, of which it constitutes a technical revision.

# Thermoplastics pipes for the transport of fluids — Nominal outside diameters and nominal pressures — Part I : Metric series

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the nominal outside diameters and nominal pressures of circular-section thermoplastics pipes for the transport of fluids, whatever their method of manufacture, their composition and their use.

It is intended to serve as a guide to manufacturers and users, and as a basis for specific standards for thermoplastics pipes made from a given plastics material and/or for a definite application.

Attention is also drawn to ISO 161/II.

## 2 REFERENCES

ISO 3, *Preferred numbers — Series of preferred numbers*.

ISO 161/II, *Thermoplastics pipes for the transport of fluids — Nominal outside diameters and nominal pressures — Part II : Inch series.*<sup>1)</sup>

## 3 NOMINAL OUTSIDE DIAMETERS

The pipes shall have one of the nominal outside diameters given in table 1.

## 4 TOLERANCES ON OUTSIDE DIAMETERS

The permissible deviations on the outside diameters of thermoplastics pipes shall be positive, in the form  ${}^+ \frac{x}{0}$ .

## 5 NOMINAL PRESSURES AND WORKING PRESSURES

**5.1** The nominal pressure of a pipe is the working pressure of the pipe conveying water at a temperature of 20 °C.

**5.2** The working pressure of a pipe is the maximum pressure which the pipe can sustain in continuous use.

**5.3** The nominal pressures of thermoplastics pipes are given in table 2.

TABLE 1 — Nominal outside diameters

Values in millimetres

2,5	140
3	160
4	180
5	200
6	225
8	250
10	280
12	315
16	355
20	400
25	450
32	500
40	560
50	630
63	710
75	800
90	900
110	1 000
125	

For larger sizes, the R 20 series of preferred numbers given in ISO 3 should be followed.

TABLE 2 — Nominal pressures

bar	MPa
1	0,1
2,5	0,25
4	0,4
6 (6,3)	0,6 (0,63)
10	1
16	1,6

Values in parentheses : for calculation only.

If higher or intermediate nominal pressures are required, they should be selected from the R 10 series of preferred numbers given in ISO 3.

1) At present at the stage of draft. (Revision of ISO/R 330.)