

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 161

PIPES OF PLASTICS MATERIALS FOR THE TRANSPORT OF FLUIDS
(OUTSIDE DIAMETERS AND NOMINAL PRESSURES)

PART I: METRIC SERIES

1st EDITION

June 1960

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BRIEF HISTORY

The ISO Recommendation R 161, *Pipes of Plastics Materials for the Transport of Fluids (Outside Diameters and Nominal Pressures). Part I: Metric Series*, was drawn up by Technical Committee ISO/TC 5, *Pipes and fittings*, the Secretariat of which is held by the Association Suisse de Normalisation (SNV).

During 1954, the Technical Committee decided, by correspondence, to set up a Sub-Committee ISO/TC 5/SC 6 to study pipes and fittings of plastics materials for the transport of fluids. The Netherlands Member Body was entrusted with the Secretariat of this Sub-Committee.

At the unofficial meeting of the Sub-Committee, held in The Hague, in April 1955, the proposal was made to standardize the outside diameters and nominal pressures of the pipes, so as to simplify the tooling for the manufacture of the pipes, to make the fitting easier, and to settle upon a limited selection of pipes. As a result of this decision, a draft proposal was drawn up for a metric series, based on preferred numbers and taking the various existing standards into account. This draft proposal was adopted by the Sub-Committee at its first meeting, held in Zurich, in March 1956.

This draft proposal was then submitted by correspondence, in June 1958, to the members of the Technical Committee and was adopted by a majority of them as a Draft ISO Recommendation.

On 25 March 1959, this Draft ISO Recommendation (No. 282) was distributed to all the ISO Member Bodies and was approved, subject to a few modifications, by the following Member Bodies:

Austria	France	Poland
Belgium	Germany	Romania
Brazil	Hungary	Spain
Burma	India	Sweden
Canada	Israel	Switzerland
Czechoslovakia	Italy	U.S.S.R.
Denmark	Japan	
Finland	Netherlands	

Five Member Bodies opposed the approval of the Draft, in particular because this Draft dealt only with a metric series and did not provide for a corresponding inch series:

Ireland, New Zealand, Norway, United Kingdom, U.S.A.

This Draft ISO Recommendation was then submitted to the ISO Council, which decided, during its meeting, in June 1960, to accept it as an ISO Recommendation, subject to having the title of the Recommendation followed by the indication "Part I: Metric series", thus taking into account the objections which had been raised by the five Member Bodies mentioned above.

PIPES OF PLASTICS MATERIALS FOR THE TRANSPORT OF FLUIDS (OUTSIDE DIAMETERS AND NOMINAL PRESSURES)

PART I: METRIC SERIES

1. FIELD OF APPLICATION AND SCOPE

This ISO Recommendation applies to circular plastics tubes for the transport of fluids, whatever their method of manufacture, their composition and their use. The object is to fix outside diameters and working pressures.

It is intended to serve as a *guide* to manufacturers and users, and as a *basis* for specific standards for a given material or a definite application.

2. OUTSIDE DIAMETERS OF TUBES

The tubes should have one of the following outside diameters, expressed in millimetres (see Table 1 below):

TABLE 1
Outside diameters of tubes

2.5	25	160
3	32	180
4	40	200
5	50	225
6	63	250
8	75	280
10	90	315
12	110	355
16	125	400
20	140	

For larger sizes, the series R 20 of the preferred numbers laid down in ISO Recommendation R 3 - *Preferred Numbers - Series of Preferred Numbers* should be followed.

3. TOLERANCES ON OUTSIDE DIAMETERS OF TUBES

The permissible deviations of the outside diameters of plastics tubes should be positive, in the form $\begin{matrix} +x \\ +0 \end{matrix}$.