SLOVENSKI STANDARD
SIST EN ISO 12162:1997

01-februar-1997

Plastomerni materiali za cevi in fitinge v tlaļ nih cevovodih - Razvrģļ anje in oznaļ evanje - Skupni koeficient za vzdrģevanje (projektiranje) (ISO 12162:1995)

Thermoplastics materials for pipes and fittings for pressure applications - Classification and designation - Overall service (design) coefficient (ISO 12162:1995)

Thermoplastische Werkstoffe für Rohre und Formstücke bei Anwendungen unter Druck - Klassifizierung und Werkstoffkennzeichnung - Gesamtbetriebs(berechnungs)koeffizient (ISO 12162:1995)

Matieres thermoplastiques pour tubes et raccords pour applications sous pression - Classification et désignation - Coefficient global de service (de calcul) (ISO 12162:1995)

Ta slovenski standard je istoveten z: **EN ISO 12162:1995**

ICS:

23.040.20	Cevi iz polimernih materialov	Plastics pipes
23.040.45	Fitingi iz polimernih materialov	Plastics fittings

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English version

Thermoplastics materials for pipes and fittings for pressure applications - Classification and designation - Overall service (design) coefficient (ISO 12162:1995)

Matières thermoplastiques pour tubes et raccords pour applications sous pression - Classfication et désignation - Coefficient global de service (de calcul) (ISO 12162:1995)

Thermoplastische Werkstoffe für Rohre und Formstücke bei Anwendungen unter Druck - Klassifizierung und Werkstoffkennzeichnung - Gesamtbetriebs(berechnungs)koeffizient (ISO 12162:1995)

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard ISO 12162:1995 has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with CEN/TC 155 "Plastics piping systems and ducting systems". It has been submitted to Parallel Vote and has been approved on 1995-05-02 as a European Standard.

This European Standard shall be given the status of a National Standard, either by publication of an identical text or by endorsement, at the latest by December 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.

According to CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 12162:1995 has been approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 12162

First edition
1995-06-01

Thermoplastics materials for pipes and fittings for pressure applications — Classification and designation — Overall service (design) coefficient

Matières thermoplastiques pour tubes et raccords pour applications avec pression — Classification et désignation — Coefficient global de service (de calcul)

Reference number
ISO 12162:1995(E)

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 12162 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories - Test methods and basic specifications*.

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Introduction

ISO/TR 9080 states in 0.2.7 of its introduction that methods for using σ_{LTHS} and/or σ_{LCL} to arrive at the allowable design stresses still had to be considered. Service factors or safety factors have to be introduced.

This International Standard uses the lower confidence limit of the long-term strength, σ_{LCL}, as a basis for material classification and designation and defines the relation with the design stress. The service factors are expressed in the overall service (design) coefficient. The final overall service (design) coefficients are given in the product or system standards.

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Thermoplastics materials for pipes and fittings for pressure applications — Classification and designation — Overall service (design) coefficient

1 Scope

This International Standard establishes the classification of thermoplastics materials in pipe form and specifies the material designation. It also gives a method for calculating the design stress.

It applies to materials intended for pipes and/or fittings for pressure applications.

The classification, the material designation, and the calculation method are based on the resistance to internal pressure with water at 20 °C in water for 50 years, derived by extrapolation using the method given in ISO/TR 9080.

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 3:1973, *Preferred numbers — Series of preferred numbers.*

ISO 497:1973, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers.*

ISO 1043-1:1987, *Plastics — Symbols — Part 1: Basic polymers and their special characteristics.*

ISO/TR 9080:1992, *Thermoplastics pipes for the transport of fluids — Methods of extrapolation of hydrostatic stress rupture data to determine the long-term hydrostatic strength of thermoplastics pipe materials.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 long-term strength at 20 °C for 50 years, σ_{LTHS}: Quantity with the dimensions of stress, in megapascals, which can be considered as a property of the material and represents the 50 % lower confidence limit for the long-term strength. It is equal to the mean strength or predicted mean strength at 20 °C for 50 years with internal pressure with water.

3.2 lower confidence limit at 20 °C for 50 years, σ_{LCL}: Quantity with the dimensions of stress, in megapascals, which can be considered as a property of the material and represents the 97,5 % lower confidence limit of the mean long-term strength at 20 °C for 50 years with internal pressure with water.

3.3 minimum required strength, MRS: Value of σ_{LCL}, rounded down to the next smaller value of the R10 series or of the R20 series conforming to ISO 3 and ISO 497, depending on the value of σ_{LCL}.

3.4 overall service (design) coefficient, C: Overall coefficient with a value greater than 1, which takes into consideration service conditions as well as properties of the components of a piping system other than those represented in the lower confidence limit.

NOTE 1 Minimum values of C for various materials are given in clause 5.