Plastid. Polüstüreenist (PS) vormimis- ja ekstrusioonimaterjalid. Osa 2: Proovikehade ettevalmistamine ja omaduste määramine

Plastics - Polystyrene (PS) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties j(ISO 1622-2:1995)



# **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 1622-2:2000 sisaldab Euroopa standardi EN ISO 1622-2:1999 ingliskeelset teksti. This Estonian standard EVS-EN ISO 1622-2:2000 consists of the English text of the European standard EN ISO 1622-2:1999.

Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.

Standard on kättesaadav Eesti standardiorganisatsioonist.

The standard is available from Estonian standardisation organisation.

# Käsitlusala:

Standardi ISO 1622 käesolev osa määrab kindlaks meetodid proovikehade ettevalmistuseks ja testimismeetodid, mida kasutatakse polüstüreenist vormimis- ja ekstrusioonimaterjalide omaduste määramiseks. Standard esitab nõuded testitava materjali käsitsemise ning nii materjali kui ka testitava proovikeha stabiliseerimise kohta enne testimist.

# Scope:

**ICS** 83.080.20

**Võtmesõnad:** determination, extruding materials, moulding materials, plastics, polystyrene, properties, specimen preparation, test specimens, tests, thermoplastic resins

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

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# **English version**

#### **Plastics**

Polystyrene (PS) moulding and extrusion materials
Part 2: Preparation of test specimens and determination of properties
(ISO 1622-2: 1995)

Plastiques – Polystyrène (PS) pour moulage et extrusion – Partie 2: Préparation des éprouvettes et détermination des propriétes (ISO 1622-2 : 1995) Kunststoffe – Polystyrol (PS)-Formmassen – Teil 2: Herstellung von Probekörpern und Bestimmung von Eigenschaften (ISO 1622-2: 1995)

This European Standard was approved by CEN on 1999-04-16.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

# CEN

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#### Foreword

International Standard

ISO 1622-2: 1995 Plastics – Polystyrene (PS) moulding and extrusion materials – Part 2: Preparation of test specimens and determination of properties,

which was prepared by ISO/TC 61 'Plastics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 249 'Plastics', the Secretariat of which is held by IBN, 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, and conflicting national standards withdrawn, by November 1999 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

### **Endorsement notice**

The text of the International Standard ISO 1622-2: 1995 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

# 1 Scope

This part of ISO 1622 specifies the methods of preparation of test specimens and the test methods to be used in determining the properties of PS moulding and extrusion materials. Requirements for handling test material and for conditioning both the test material before moulding and the specimens before testing are given here.

Procedures and conditions for the preparation of test specimens and procedures for measuring properties of the materials from which these specimens are made are given. Properties and test methods which are suitable and necessary to characterize PS moulding and extrusion materials are listed.

The properties have been selected from the general test methods in ISO 10350. Other test methods in wide use for or of particular significance to these moulding and extrusion materials are also included in this part of ISO 1622, as are the designatory properties specified in part 1.

In order to obtain reproducible and comparable test results, it is necessary to use the methods of specimen preparation and conditioning, the specimen dimensions and the test procedures specified herein. Values determined will not necessarily be identical to those obtained using specimens of different dimensions or prepared using different procedures.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1622. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 1622 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 62:1980, Plastics — Determination of water absorption.

ISO 75-1:1993, Plastics — Determination of temperature of deflection under load — Part 1: General test method.

ISO 75-2:1993, Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite.

ISO 178:1993, Plastics — Determination of flexural properties.

ISO 179:1993, Plastics — Determination of Charpy impact strength.

ISO 291:1977, Plastics — Standard atmosphere's for conditioning and testing.

ISO 293:1986, Plastics — Compression moulding test specimens of thermoplastic materials.

ISO 294:1995, Plastics — Injection moulding of test specimens of thermoplastic materials.

ISO 306:1994, Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST).

ISO 489:1983, Plastics — Determination of the refractive index of transparent plastics.

ISO 527-1:1993, Plastics — Determination of tensile properties — Part 1: General principles.

ISO 527-2:1993, Plastics — Determination of tensile properties — Part 2. Test conditions for moulding and extrusion plastics.

ISO 899-1:1993, Plastics — Determination of creep behaviour — Part 1: Tensile creep.

ISO 1133:1991, Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics.

ISO 1183:1987, Plastics — Methods for determining the density and relative density of non-cellular plastics.

ISO 1210:1992, Plastics — Determination of the burning behaviour of horizontal and vertical specimens in contact with a small-flame ignition source.

ISO 1622-1:1994, Plastics — Polystyrene (PS) moulding and extrusion materials — Part 1: Designation system and basis for specifications.

ISO 2561:1974, Plastics — Determination of residual styrene monomer in polystyrene by gas chromatography.

ISO 2818:1994, Plastics — Preparation of test specimens by machining.

ISO 3167:1993, Plastics — Multipurpose test specimens.

ISO 4589-2:—1), Plastics — Determination of burning behaviour by oxygen index — Part 2: Ambient-temperature test.

ISO 4589-3:—1), Plastics — Determination of burning behaviour by oxygen index — Part 3: Elevated-temperature test.

ISO 8256:1990, Plastics — Determination of tensile-impact strength.

ISO 10350:1993, *Plastics* — Acquisition and presentation of comparable single-point data.

IEC 93:1980, Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials.

IEC 112:1979, Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions.

IEC 243-1:1988, Methods of test for electric strength of solid insulating materials — Part 1: Tests at power frequencies.

IEC 250:1969, Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths.

IEC 296:1982, Specification for unused mineral insulating oils for transformers and switchgear.

IEC 1006:1991, Methods of test for the determination of the glass transition temperature of electrical insulating materials.

# 3 Preparation of test specimens

It is essential that specimens are always prepared by the same procedure (either injection moulding or compression moulding), using the same processing conditions.

The procedure to be used for each test method is indicated in tables 3 and 4 (M = injection moulding, Q = compression moulding).

# 3.1 Treatment of the material before moulding

Before processing, no pretreatment of the material sample is normally necessary.

## 3.2 Injection moulding

Injection-moulded specimens shall be prepared in accordance with ISO 294, using the conditions specified in table 1.

<sup>1)</sup> To be published.