

**Plastist torustiku- ja kanalisüsteemid.
Polüolefiintorud ja -liitmikud.
Oksüdatsiooni induktsioonaja
määramine**

Plastics piping and ducting systems - Polyolefin
pipes and fittings - Determination of oxidation
induction time

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 728:2000 sisaldab Euroopa standardi EN 728:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 728:2000 consists of the English text of the European standard EN 728:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>Käesolev standard esitab meetodi polüolefiintorude ja -liitmike materjali oksüdatsiooni induktsioonaja mõõtmiseks hapnikus kindlaksmääratud temperatuuril. Testi võib kasutada kas toormaterjalide või valmistoodete soojuspüsivuse hindamiseks.</p>	<p>Scope:</p>
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ICS 83.140.30

Võtmesõnad: kindlaksmääramine, oksüdeerumine, plasttorud, polüolefiinid, termoplastvaigud, termostabiilsus, testimine, toruliitmikud

ICS 83.140.30

Descriptors: Plastics, polyolefin, fittings, pipes, testing.

English version

Plastics piping and ducting systems

Polyolefin pipes and fittings

Determination of oxidation induction time

Systèmes de canalisations et de gaines en
plastique – Tubes et raccords en polyolé-
fine – Détermination du temps d'induction
à l'oxydation

Kunststoff-Rohrleitungs- und Schutzrohr-
systeme – Rohre und Formstücke aus
Polyolefinen – Bestimmung der Oxi-
dations-Induktionszeit

This European Standard was approved by CEN on 1996-10-27.

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

CEN

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

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

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NNI.

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 July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

This standard is based on ISO/TR 10837:1991 "Determination of the thermal stability of polyethylene (PE) for use in gas pipes and fittings", published by the International Organization for Standardization (ISO). It is a modification of ISO/TR 10837:1991 for reasons of applicability to other plastics materials and/or other test conditions and alignment with texts of other standards on test methods.

The modifications are:

- advice is provided on possible application of the method to additional thermoplastics;
- test parameters, except those common to all plastics, are omitted;
- no material-dependent requirements are given;
- editorial changes have been introduced.

The material-dependent parameters and/or performance requirements are incorporated in the System Standard(s) concerned.

This standard is one of a series of standards on test methods which support System Standards for plastics piping systems and ducting systems.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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.

1 Scope

This standard specifies a method for measuring the oxidation induction time in oxygen at a specified temperature of polyolefin materials for or from pipes or fittings.

It may be used for assessing the thermal stability of either raw materials or finished products.

2 Normative references

This Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter.

For dated references, subsequent amendments to or revisions of any of these publications apply to this Standard only when incorporated in it by amendment or revision.

For undated references the latest edition of the publication referred to applies.

ISO 293	<i>Plastics - Compression moulding test pieces of thermoplastic materials</i>
ISO 1133	<i>Plastics - Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics</i>

3 Principle

It is assumed that a polyolefin material for manufacture of pipe and/or fittings will incorporate an additive package which includes one or more antioxidants or other stabilizers.

The time for which the material, with its additive package consisting of antioxidant, stabilizers and other additives present in a test piece, inhibits oxidation is measured while the test piece is held isothermally at a specified temperature in a stream of oxygen.

The progress of the oxidation is monitored by measuring the difference in energy flow (ΔQ) or temperature (ΔT) between the test piece pan and reference pan of a thermal analyser and recording this difference against time.

The oxidation induction time (OIT) is then derived from this record as the period during which the difference of energy flow or temperature remains constant (see figure 2) between the test piece pan and reference pan.