

**Plasttorustikusüsteemid. Liitmike ja polüolefiinist survetorude vahel olevad mehaanilised ühendused. Sisesurve all olevate paindele allutatud koostisosade tihkuse katsemeetod**

Plastics piping systems - Mechanical joints between fittings and polyolefin pressure pipes - Test method for leaktightness under internal pressure of assemblies subjected to bending

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 713:1999 sisaldab Euroopa standardi EN 713:1993 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 713:1999 consists of the English text of the European standard EN 713:1993.</p> <p>This document is endorsed on 23.11.1999 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><b>Käsitlusala:</b></p> <p>Käesolev standard määrab kindlaks meetodi paindele allutatud sisemise hüdrostaatilise surve all olevate liitmike ja polüolefiinist survetorude vahele paigaldatud mehaaniliste ühenduste (v.a. sulakeevitusega keevitatud ühendused) tihkuse kontrollimiseks. Standard esitab meetodi keskmise painderaadiuse arvutamiseks ja sellise painde saavutamise menetluse.</p>	<p><b>Scope:</b></p>
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**Võtmesõnad:** plasttorud, polüolefiinid, surveteimid, survetorud, toruliitmikud, torustikud, veetihedus, ühendused

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Descriptors: Pipelines, pressure pipes, plastics pipes, polyolefins, pipe fittings, joints, watertightness, pressure tests.

**English version**

Plastics piping systems

**Mechanical joints between fittings and polyolefin  
pressure pipes**

Test method for leaktightness under internal pressure of assemblies  
subjected to bending

Systèmes de canalisations plastiques; assemblages mécaniques entre raccords et tubes en polyoléfine avec pression; essai d'étanchéité sous pression interne des assemblages soumis à une courbure

Kunststoff-Rohrleitungssysteme; mechanische Verbindungen zwischen Formstücken und Druckrohren aus Polyolefinen; Prüfverfahren für die Dichtheit unter Innendruck und Biegung

This European Standard was approved by CEN on 1993-11-25.

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.

This European Standard exists 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 United Kingdom.

**CEN**

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

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## Foreword

This standard was prepared by CEN/TC 155 'Plastics piping systems and ducting systems'.

This standard is based on International Standard ISO 3503:1976 'Assembled joints between fittings and polyethylene (PE) pressure pipes; test of leakproofness under internal pressure when subjected to bending', prepared by the International Organization for Standardization (ISO), which has been modified for reasons of applicability to other plastics materials and/or other test conditions and for alignment with texts of other standards on test methods.

The modifications are:

- no specific polyolefins are mentioned;
- test parameters, except those common to all polyolefins, are omitted;
- no diameter limit is included;
- no material-dependent requirements are given;
- editorial changes have been introduced.

The material-dependent test parameters and/or performance requirements are incorporated in the system standard(s) concerned.

No existing European Standard is superseded by this standard.

This standard is part of a series of standards on test methods which support system standards for plastics piping systems and ducting systems.

This standard has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association, and supports essential requirements of the relevant EC Directive(s).

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 May 1994 at the latest.

In accordance with the 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 United Kingdom.

## 1 Scope

This standard specifies a method of checking the leaktightness under internal hydrostatic pressure of assembled mechanical joints (excluding fusion-welded joints) between fittings and polyolefin pressure pipes while subjected to bending.

It specifies a method of calculating the average bending radius and gives details of the procedure (see Note).

Checking of the leaktightness under internal pressure is carried out in accordance with the method given in EN 715.

The test method is applicable regardless of the design and material of the fitting used for jointing pipes.

NOTE: 4.1 applies unless otherwise specified in the referring standard.

## 2 Normative reference

This European 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 European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 715 Plastics piping systems; mechanical joints between pressure pipes and fittings; test method for leaktightness under internal pressure

## 3 Principle

The leaktightness of the joint is checked for an assembly comprising a pipe onto at least one end of which is mounted a fitting characteristic of the type under test and through which the necessary forces are applied for bending the pipe throughout its free length.

The bend has an average radius calculated as a function of the nominal diameter of the pipe and its nominal pressure.

The bend test piece and its joint are subjected at a specified temperature to a specified internal hydrostatic pressure for a specified period and by increasing pressure until the joint fails by leakage or the pipe bursts.

NOTE: It is assumed that the following test parameters are set by the standard making reference to this standard:

- a) if applicable, the bending radius,  $R$ , in millimetres (see 4.1);
- b) the test pressure,  $p$ , in bars;
- c) the test period,  $t$ , in minutes;
- d) the test temperature,  $T$ , in degrees Celsius;
- e) the maximum pipe diameter for which this test method is applicable.

## 4 Apparatus

WARNING: It is necessary to take account of consequences of failure of the components under pressure and to contain the test piece or apparatus accordingly (e.g. immersed in water or caged).