

**Plasttorustikusüsteemid.
Klaassarrusega termokõvenevast
plastist komponendid. Poltidega
äärikühenduste konstruktsiooni
uurimise katsemeetodid**

Plastics piping systems - Glass-reinforced
thermosetting plastics (GRP) components - Test
methods to prove the design of bolted flange joints

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1450:1999 sisaldab Euroopa standardi EN 1450:1996+A1:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1450:1999 consists of the English text of the European standard EN 1450:1996+A1:1998.</p> <p>This document is endorsed on 12.12.1999 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>Käsitlusala:</p> <p>Käesolev standard määrab kindlaks maa sees ja maa peal olevate torustike korral klaasarmatuuriga termokõvenevast plastist tehtud plasttorustikusüsteemides kasutamiseks ettenähtud poltidega äärikühenduste testimise meetodid. Standard kehtib ainult ühenduste kohta ja hõlmab nende konstruktsiooni uurimise testimismeetodeid.</p>	<p>Scope:</p>
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ICS 23.040.60

Võtmesõnad: hüdrostaatiline surve, paindetugevus, plasttorud, sarrusplastid, termokõvenevad vaigud, testimine, toruliitmikud, vastupidavus survele, äärikühendused, ühendamine

ICS 23.040.60

Supersedes EN 1450 : 1996.

Descriptors: Plastics, piping systems, testing, flanged joints.

English version

Plastics piping systems

Glass-reinforced thermosetting plastics (GRP) components

Test methods to prove the design of bolted flange joints
(includes Amendment A1 : 1998)

Systèmes de canalisations en plastiques – Composants en plastiques thermodurcissables renforcés de verre (PRV) – Méthodes d'essai pour confirmer la conception d'assemblages à brides boulonnées
(Amendement A1 : 1998 inclus)

Kunststoff-Rohrleitungssysteme – Bauteile aus glasfaser-verstärkten duroplastischen Kunststoffen (GFK) – Prüfverfahren zur Bauartprüfung von geschraubten Flansch-Verbindungen
(enthält Änderung A1 : 1998)

This European Standard was approved by CEN on 1996-05-09 and Amendment A1 on 1998-06-22.

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

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

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

Foreword to EN 1450 : 1996

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 standard is based on the proposed draft International Standard ISO/DP 8483 'Glass reinforced thermosetting plastics (GRP) pipes and fittings – Bolted flange joints – Initial performance requirements and methods of test (working draft for updating ISO/DP 8483 to a DIS)', prepared by the International Organization for Standardization (ISO). It is a modification of ISO/DP 8483 for reasons of possible applicability to other test conditions and alignment with texts of other standards on test methods.

The modifications are as follows:

- test parameters (pressure, time, temperature) are not specified;
- performance requirements are not given;
- editorial changes have been introduced.

The material-dependent parameters and/or performance requirements are incorporated in the referring standard.

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

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 March 1997 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Foreword to EN 1450 : 1996/A1 : 1998

This Amendment to EN 1450 : 1996 has been prepared by Technical Committee CEN/TC 155 'Plastics piping systems and ducting systems', the Secretariat of which is held by NNI.

This Amendment 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 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 Amendment:

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.

Introduction

In a pipework system, pipes and fittings of different nominal pressures and stiffnesses may be used.

A joint may be made between pipes and/or fittings and should be designed such that its performance is equal to or better than the requirements of the pipeline, but not necessarily of the components being joined.

The requirements for the assembly of the joint are not included in this standard, but they should be in accordance with the manufacturer's recommendations.

1 Scope

This standard specifies methods of test for joints with bolted flanges for plastics piping systems of glass-reinforced thermosetting plastics (GRP) for buried and above ground pipelines. This standard is only applicable to the joint and covers methods of test to prove its design.

This test procedure is applicable to joints for pipes and fittings of all nominal sizes.

The tests detailed in 6.1 to 6.6 inclusive are applicable to bolted flange joints intended to be used in buried or above-ground applications.

NOTE 1: The only intention of testing the resistance to negative pressure is to give adequate safety against infiltration of pollutants through the joint into the fluid carried in the piping system. Under these test conditions pipes with low stiffnesses may require support to prevent them from buckling.

NOTE 2: The test methods are dependent upon having a declared value for the bolt torque to be used for assembling the joints appropriate to, for example, the design of the joint, the relevant nominal pressure and the temperature of test. The results are only valid for the type of flanged joint tested.

All tests given in this standard are applicable for evaluating joints intended for applications conveying liquids at temperatures up to 50 °C and may be applicable to joints for use at higher temperatures (see clause 2).

2 Principle

A joint is subjected to specified internal pressures. The procedure includes prolonged static tests at elevated pressures and also cyclic testing.

A method is included to test the resistance of the joint to an internal negative pressure.

A method to assess resistance to bolt tightening torque is included.

At the end of each test the joint is inspected for signs of leakage and damage.

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

- a) the number of test pieces to be used (see 4.1);
- b) the length, L , of the assembled test piece (see 4.2);
- c) the nominal pressure relevant to the joint under test (see 4.2 and 6.2 to 6.4);