

**Plasttorustikusüsteemid. Liitmikud,  
ventiilid ja abivarustus. Gaasi  
vooluhulga ja survelangu suhte  
kindlaksmääramine**

Plastics piping systems - Fittings, valves and  
ancillaries - Determination of gaseous flow  
rate/pressure drop relationships

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12117:1999 sisaldab Euroopa standardi EN 12117:1997 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 12117:1999 consists of the English text of the European standard EN 12117:1997.</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><b>Käsitlusala:</b></p> <p>Käesolev standard esitab meetodi rõhul 25 mbar testitavate plasttorustikukomponentide vooluhulga ja surveangu suhte kindlaksmääramiseks. Standard kehtib mehaaniliste liitmike, ventiilide, keermestatud kolmikute ja teiste abivahendite suhtes, mis on ette nähtud kasutamiseks gaaskütustega varustavas polüetüleenitorustikusüsteemis. Saadud andmeid saab kasutada selliste gaaside vooluhulga arvutamiseks kindlaksmääratud surveangu korral.</p>	<p><b>Scope:</b></p>
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**ICS** 23.040.45, 23.060.01

**Võtmesõnad:** kindlaksmääramine, kraanid, plasttorud, polüetüleen, survekaod, testimine, toruliitmikud

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Descriptors: Plastics, pipes, valves, flow rate/pressure drop relationship, testing.

**English version**

Plastics piping systems

**Fittings, valves and ancillaries**

Determination of gaseous flow rate/pressure drop relationships

Systèmes de canalisations en plastiques – Raccords, robinets et équipements auxiliaires – Détermination du rapport débit gazeux/perte de charge

Kunststoff-Rohrleitungssysteme – Formstücke, Armaturen und Zubehörteile – Bestimmung des Zusammenhanges zwischen Gasdurchfluß und Druckabfall

This European Standard was approved by CEN on 1997-05-28.

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**

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.

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.

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 February 1998, and conflicting national standards shall be withdrawn at the latest by February 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, 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 determining the flow rate/pressure drop relationship of components for plastics piping when tested using air at 25 mbar<sup>1)</sup>.

It is applicable to mechanical fittings, valves, tapping tees and other ancillaries intended to be used in polyethylene (PE) piping systems for supply of gaseous fuels.

The data obtained may be used to calculate the flow rate of such gases for a specified pressure drop.

## 2 Normative reference

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.

prEN 837-1:1994      *Pressure gauges - Part 1 : Bourdon tube pressure gauges - Dimensions, metrology, requirements and testing*

## 3 Principle

Utilizing a constant main pressure, the flow rate through a piping component is varied between specific limits to assess the pressure drop. The average value of the air flow rate for a pressure drop appropriate to the size of the component is then determined for the gas used. The value for other gases may be calculated on the basis of density differences.

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 (see 5.2);
- b) the relevant value(s) for pressure drop,  $\Delta p_n$  (see 7.2);
- c) the relevant value to be used for  $p_{air}$  and the relevant temperature and pressure if not as given in 7.3;
- d) the relevant value to be used for  $p_{gas}$  and the relevant temperature and pressure if not as given in 7.3.

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1) 1 bar = 10<sup>5</sup> N/m<sup>2</sup>