Thermoplastics fittings - Determination of ring stiffness

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 13967:2010 sisaldab Euroopa standardi EN ISO 13967:2009 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 13967:2010 consists of the English text of the European standard EN ISO 13967:2009.
Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.12.2009.	Date of Availability of the European standard text 15.12.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 23.040.45

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13967

December 2009

ICS 23.040.45

English Version

Thermoplastics fittings - Determination of ring stiffness (ISO 13967:2009)

Raccords en matières thermoplastiques - Détermination de la rigidité annulaire (ISO 13967:2009)

Thermoplastische Formstücke - Bestimmung der Ringsteifigkeit (ISO 13967:2009)

This European Standard was approved by CEN on 14 December 2009.

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Foreword

This document (EN ISO 13967:2009) has been prepared by Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" in collaboration with Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems” the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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Endorsement notice

The text of ISO 13967:2009 has been approved by CEN as a EN ISO 13967:2009 without any modification.

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1 Scope

This International Standard specifies a method of determining the ring stiffness of bends and branches made from thermoplastic material and for use with plastics pipes having a circular cross-section.

The method can be used to determine the stiffness of bends, equal branches and unequal branches, provided the fitting allows a diametric deflection of at least 4 %.

NOTE 1 If a fitting has the same wall thickness, wall construction, material and diameter as a pipe tested according to ISO 9969, then, because of its geometry, its stiffness can be equal to or greater than that of the pipe. In this case, the fitting can be classified as having the same stiffness class as the pipe, without testing.

NOTE 2 Any unequal branch can be expected to have at least the same stiffness as an equal branch, provided that it has the same main diameter, wall construction and material as the equal branch.

NOTE 3 A reducer having the same wall thickness, wall construction and material in the transition zone as a tested bend or branch can be expected to have at least the same stiffness as the tested bend or branch with the largest diameter of that reducer.

NOTE 4 The result of the test reflects the resistance the fitting has against deflection when installed. Advice on the significance of the test result is given in Annex A.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
ring stiffness
S
mechanical characteristic of a fitting, which is a measure of the resistance to diametric deflection under an external force applied between two parallel planes, as determined in accordance with this International Standard

NOTE 1 This method uses a deflection of 3 % as the reference at which to determine this characteristic.

NOTE 2 Throughout this International Standard, the term “ring stiffness” is used. In ISO 9969 that describes a method of determining the stiffness of a plastics pipe; the word “ring” is appropriate and is used to differentiate the circumferential stiffness or ring stiffness from the axial stiffness or longitudinal stiffness. The pipe test pieces have the shape of rings. Although fittings do not have the shape of rings, to emphasize the relationship between this International Standard and ISO 9969 and to stress that in both cases the stiffness is related to the resistance of the product to diametric deflection, the word “ring” has been retained in this International Standard for the determination of the stiffness of fittings.

2.2
compressive force
compressive load
F
force applied to cause the diametric deflection during testing in accordance with this International Standard