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NSAI Standards

Irish Standard
I.S. EN ISO 9969:2016

Thermoplastics pipes - Determination of ring stiffness (ISO 9969:2016)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 9969

January 2016

ICS 23.040.20

Supersedes EN ISO 9969:2007

English Version

Thermoplastics pipes - Determination of ring stiffness (ISO 9969:2016)

Tubes en matières thermoplastiques - Détermination de la rigidité annulaire (ISO 9969:2016)

Thermoplastische Rohre - Bestimmung der Ringsteifigkeit (ISO 9969:2016)

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European foreword

This document (EN ISO 9969:2016) 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of an identical text or by endorsement, at the latest by July 2016, and conflicting national standards shall be withdrawn at the latest by July 2016.

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INTERNATIONAL STANDARD

ISO 9969

Third edition
2016-01-15

Thermoplastics pipes — Determination of ring stiffness

Tubes en matières thermoplastiques — Détermination de la rigidité annulaire

Reference number
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Foreword

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The committee responsible for this document is ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories — Test methods and basic specifications*.

This third edition cancels and replaces the second edition (ISO 9969:2007), which has been technically revised.

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Thermoplastics pipes — Determination of ring stiffness

1 Scope

This International Standard specifies a test method for determining the ring stiffness of thermoplastics pipes having a circular cross section.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

3 Symbols

For the purposes of this document, the following symbols apply.

		Units
d_n	nominal diameter of pipe	mm
d_i	inside diameter of the test piece of pipe	mm
e_c	construction height	mm
F	loading force	kN
F_0	pre-load force	N
L	length of test piece	mm
p	pitch of ribs or windings	mm
S	ring stiffness	kN/m^2
y	vertical deflection	mm

4 Principle

The ring stiffness is determined by measuring the force and the deflection while deflecting the pipe at a constant deflection speed.

A cut length of pipe supported horizontally is compressed vertically between two parallel flat plates moved at a constant speed that is dependent upon the diameter of the pipe.

A plot of force versus deflection is generated. The ring stiffness is calculated as a function of the force necessary to produce a 3 % diametric deflection of the pipe.

NOTE It is assumed that the test temperature is set by the referring standard, if appropriate (see 8.1).

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