



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 14741:2006

Thermoplastics piping and ducting systems - Joints for buried non- pressure applications - Test method for the long-term sealing performance of

Rohrleitungs- und Schutzrohrsysteme
aus Thermoplasten - Verbindungen für
erdverlegte drucklose Anwendungen -
Prüfverfahren für das Langzeit-

Systèmes de canalisations et de gaines
en thermoplastiques - Assemblages pour
applications enterrées sans pression -
Méthode d'essai pour la performance à

02/2006



National Foreword

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English Version

**Thermoplastics piping and ducting systems - Joints for buried
non-pressure applications - Test method for the long-term
sealing performance of joints with elastomeric seals by
estimating the sealing pressure**

Systèmes de canalisations et de gaines en
thermoplastiques - Assemblages pour applications
enterrées sans pression - Méthode d'essai pour la
performance à long terme des assemblages avec
garnitures d'étanchéité en élastomère par l'estimation de la
pression d'étanchéité

Rohrleitungs- und Schutzrohrsysteme aus Thermoplasten -
Verbindungen für erdverlegte drucklose Anwendungen -
Prüfverfahren für das Langzeit-Dichtverhalten von
Verbindungen mit Elastomer-dichtungen durch
Abschätzung des Dichtdrucks

This European Standard was approved by CEN on 30 December 2005.

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.

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CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard (EN 14741:2006) has been prepared by 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 August 2006, and conflicting national standards shall be withdrawn at the latest by August 2006.

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 that support System Standards for plastics piping systems and ducting systems.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This draft European Standard specifies a method for determination of the long-term sealing pressure of elastomeric seals in assembled joints for buried non-pressure sewerage plastics piping and ducting systems.

2 Normative references

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

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 681-3, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 3: Cellular materials of vulcanized rubber*

EN 681-4, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 4: Cast polyurethane sealing elements*

EN 837-1:1996, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*

EN ISO 9967, *Plastics pipes - Determination of creep ratio (ISO 9967:1994)*

3 Symbols

B	: the theoretical pressure in bar, in the PTFE tube at $t = 1$ h
D	: drop factor of extrapolated pressure data at 24 h and 100 years
M	: the gradient of the curve
p_t	: pressure measured in the PTFE tube at a flow of 120 ml/min and the time t hours
p_0	: initial leakage pressure in bar, measured in the PTFE tube after completing the assembly
p_{ta}, p_{tb}, p_{tc}	: pressure measured in the 3 PTFE tubes in the tested joint marked a, b or c respectively at the time t hours
p_x	: extrapolated pressure in bar at 100 years
p_y	: calculated pressure in bar at 24 h
p_{xa}, p_{xb}, p_{xc}	: extrapolated pressure in bar at 100 years in the 3 PTFE tubes in the tested joint marked a, b or c respectively.
$p_{100 y}$: the arithmetic mean value of the pressures obtained for each of the three extrapolated values p_x at 100 years