SLOVENSKI STANDARD
oSIST prEN 15655:2016

01-julij-2016

Cevi, fitingi in pribor iz nodularne litine - Notranja poliuretanska prevleka cevi in fitingov - Zahteve in preskusne metode

Ductile iron pipes, fittings and accessories - Internal polyurethane lining for pipes and fittings - Requirements and test methods

Rohre, Formstücke und Zubehörteile aus duktilem Gusseisen - Polyurethan-Auskleidung von Rohren und Formstücken - Anforderungen und Prüfverfahren

Tuyaux, raccords et accessoires en fonte ductile - Revêtement intérieur en polyuréthane des tuyaux et raccords - Prescriptions et méthodes d'essais

Ta slovenski standard je istoveten z: prEN 15655

ICS:

23.040.10	Železne in jeklene cevi	Iron and steel pipes
23.040.40	Kovinski fitingi	Metal fittings

oSIST prEN 15655:2016 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15655

June 2016

ICS 23.040.10; 23.040.40

Will supersede EN 15655:2009

English Version

Ductile iron pipes, fittings and accessories - Internal polyurethane lining for pipes and fittings - Requirements and test methods

Tuyaux, raccords et accessoires en fonte ductile - Revêtement intérieur en polyuréthane des tuyaux et raccords - Prescriptions et méthodes d'essais

Rohre, Formstücke und Zubehörteile aus duktilem Gusseisen - Polyurethan-Auskleidung von Rohren und Formstücken - Anforderungen und Prüfverfahren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 203.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Ref. No. prEN 15655:2016 E

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European foreword

This document (prEN 15655:2016) has been prepared by Technical Committee CEN/TC 203 “Cast iron pipes, fittings and their joints”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 15655:2009.

The main changes to EN 15655:2009 are:

a) in Clause 3 the term “nominal thickness” and a definition have been added (3.5);

b) in Clause 3 the definition of “minimum lining thickness” has been revised (3.6);

c) in 5.1 the values for the surface roughness have been changed;

d) in 5.2.2 Tables 1 and 2 for the minimum lining thickness have been revised;

e) in 5.6 the technical requirements for the non-porosity have been revised;

f) in 6.8 a reference to the FprCEN/TR 16950 “Ductile iron pipes, fittings and accessories — Sanitary characteristics and test methods” was added in a NOTE;

g) in 7.1.8 the requirements for testing of non-porosity has been revised;

h) in Table A.2 the requirements for the routine test of non-porosity (No.1) have been revised.

Introduction

This standard is in conformity with the general requirements already established by CEN/TC 164 in the field of water supply (e.g. potable water) and CEN/TC 165 in the field of waste water.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard:

a) No information is provided as to whether the product may be used without restriction in any of the member states of the EU or EFTA;

b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

1 Scope

This European Standard defines the requirements and test methods applicable to factory applied internal polyurethane high duty corrosion protection of buried ductile iron pipes and fittings conforming to EN 545, EN 598 and EN 969 for use at permanent operating temperatures up to 45 °C.

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.

EN 545, *Ductile iron pipes, fittings, accessories and their joints for water pipelines - Requirements and test methods*

EN 598:2007+A1:2009, *Ductile iron pipes, fittings, accessories and their joints for sewerage applications — Requirements and test methods*

EN 969, *Ductile iron pipes, fittings, accessories and their joints for gas pipelines - Requirements and test methods*

EN 14901, *Ductile iron pipes, fittings and accessories - Epoxy coating (heavy duty) of ductile iron fittings and accessories - Requirements and test methods*

EN ISO 4624, *Paints and varnishes - Pull-off test for adhesion (ISO 4624)*

ISO 62:2008, *Plastics — Determination of water absorption*

ISO 527-3, *Plastics — Determination of tensile properties – Part 3: Test conditions for films and sheets*

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 8501-1, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

ISO 8503-1, *Preparation of steel substrates before application of paints and related products — Surface roughness characteristics of blast-cleaned steel substrates — Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces*

3 Terms and definitions

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

3.1
ductile iron
cast iron used for pipes, fittings and accessories in which graphite is present substantially in spheroidal form

3.2
adhesion
force per unit area, applied perpendicular to the surface, which is necessary to separate the lining from its substrate

3.3
indirect impact strength
impact energy applied from outside of the pipe with deformation to which a lining can withstand without damage under defined test conditions

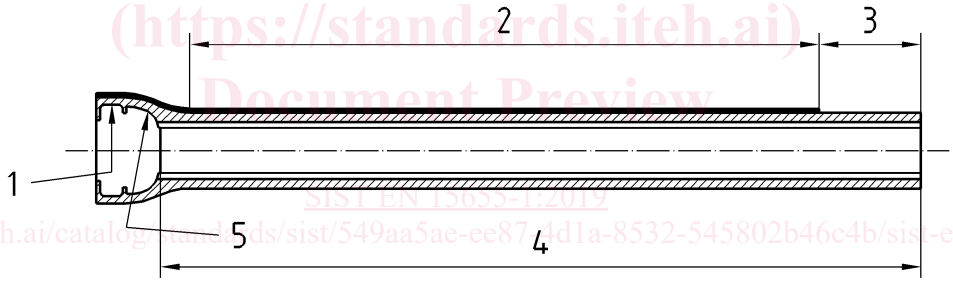
3.4
hardness
resistance of the lining to the penetration of a ball under defined test conditions

3.5
nominal thickness
alphanumerical designation used for reference purposes which is indirectly related to the physical thickness (in microns) of the lining

3.6
minimum lining thickness
minimum measured thickness of the lined item

3.7
non-porosity
absence of holidays in a high voltage test under defined test conditions

3.8
polyurethane lining
factory applied lining which consists of polyurethane on the inside of the pipe or fitting



Key

1 gasket seat

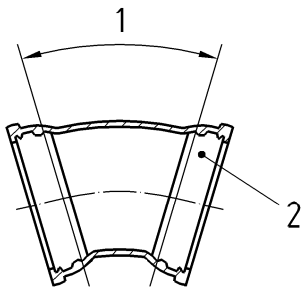
2 pipe barrel

3 spigot end

4 lining

5 internal socket profile

Figure 1 — Location of the defined pipe areas



Key

1 lining

2 internal socket profile

Figure 2 — Location of the defined fitting areas

3.9
specific lining resistance
surface related electric resistance of the lining perpendicular to the pipe wall

3.10
performance test
test which is done once and is repeated according to a schedule or after relevant change of lining material and/or material supplier or change in process application

3.11
routine test
test carried out to control the manufacturing process with a frequency defined by the manufacturer

4 Ordering information

The following information shall be supplied to the manufacturer by the purchaser.

Ductile iron pipes according to EN 545, EN 598 or EN 969 but internally coated in accordance with this European Standard shall be specified in the purchaser's enquiry and order by reference to this standard, e.g.

— 5 000 m of ductile iron pipe DN 300 according to EN 545, internal polyurethane lining according to EN 15655; or

— 10 pieces of ductile cast iron fittings DN 300 according to EN 598, internal PUR-lining according to EN 15655.

5 Technical Requirements

5.1 Surface preparation

Prior to application of the polyurethane lining, the surface of the pipes or fittings to be lined shall be clean, free of rust, loose constituent materials, dirt, oil, grease and moisture.

In cold weather, or anytime when the moisture tends to condense on the surface of the pipe or fitting, it shall be uniformly warmed for sufficient time to dry prior to cleaning. The surface temperature shall be maintained at least 5 °C above the dew point.