International Standard

ISO 16132

Ductile iron pipes and fittings — Seal coats for cement mortar linings

Tuyaux et raccords en fonte ductile — Seal coats pour les revêtements de mortier de ciment

Third edition
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Contents

Page

Foreword ... **iv**
Introduction ... **v**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Materials in contact with water intended for human consumption ... **2**
5 Performance test requirements ... **2**
5.1 Short-term sealing efficiency ... 2
5.2 Long-term sealing efficiency ... 2
5.3 Cyclic pressure ... 3
6 Routine test requirements ... **3**
6.1 General ... 3
6.2 Visual appearance ... 3
6.3 Coating thickness ... 3
6.4 Adhesion ... 3
7 Marking ... **4**
Annex A (normative) **Short-term sealing efficiency** ... **5**
Annex B (normative) **Long-term sealing efficiency** ... **8**
Annex C (normative) **Cyclic pressure test** ... **11**
Annex D (normative) **Coating thickness measurement using test film** ... **13**
Annex E (normative) **Adhesion test** ... **15**
Annex F (normative) **Quality assurance** ... **17**
Bibliography ... **18**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 5, *Ferrous metal pipes and metallic fittings*, Subcommittee SC 2, *Cast iron pipes, fittings and their joints*.

This third edition cancels and replaces the second edition (ISO 16132:2016) which has been technically revised.

The main changes are as follows:

— X-cut method has been incorporated instead of cross-cut for adhesion test as per ISO 16276-2:2007;

— a list of performance tests and routine tests has been incorporated in Annex F;

— short-term sealing efficiency and long-term sealing efficiency methods in Annex A and Annex B have been modified.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The intended purpose of a seal coat is to reduce the contact between a cement mortar lining and the contents of a water main, thereby restricting the leaching of inorganic materials into the water supply.

Seal coats are usually specified where the pipeline is to convey soft waters and/or where residence times are very long. Supply water quality data for such pipelines need to be discussed between the prospective client and the seal coated pipe supplier to ensure the suitability of the product for use.

Attention is drawn to the fact that national or international water supply or water quality regulations can apply for seal coated cement mortar lined surfaces that are in contact with, or likely to come into contact with, potable water. Approval can be needed for the individual components of the system, or for the combined system, depending upon the requirements of those national or international water supply or water quality regulations when used:

— in accordance with the product manufacturer's instructions for use,

— under any other appropriate conditions defined for that product within any published list of substances, products and processes approved to those water supply or water quality regulations.

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Ductile iron pipes and fittings — Seal coats for cement mortar linings

1 Scope

This document specifies the requirements for seal coatings for factory application to the surfaces of cement mortar linings, which are factory applied to the interior of ductile iron pipes and fittings.

It provides the performance requirements for short-term sealing efficiency, long-term durability and cyclic pressure, as well as the routine testing requirements for visual appearance, coating thickness and adhesion.

This document is applicable to products for potable and irrigation water and for other applications as per agreement between manufacturer and customer.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 2409:2020, *Paints and varnishes — Cross-cut test*

ISO 2439:2008, *Flexible cellular polymeric materials — Determination of hardness (indentation technique)*

ISO 2531:2009, *Ductile iron pipes, fittings, accessories and their joints for water applications*

ISO 10523, *Water quality — Determination of pH*

ISO 16276-2:2007, *Corrosion protection of steel structures by protective paint systems — Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating — Part 2: Cross-cut testing and X-cut testing*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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

3.2
fitting
casting other than a pipe, which allows pipeline deviation or change of direction or bore

Note 1 to entry: Flanged sockets, flanged spigots and collars are also classified as fittings.

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