# SLOVENSKI STANDARD
# SIST EN 14901-2:2020

**01-januar-2020**

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**Cevi, fitingi in pribor iz duktilne železove litine - Zahteve in preskusne metode za zunanje organske prevleke fitingov in pribora iz duktilne železove litine - 2. del: Termoplastična zunanja prevleka iz poliolefina, modificiranega s kislino (TMPO)**

Ductile iron pipes, fittings and accessories - Requirements and test methods for organic coatings of ductile iron fittings and accessories - Part 2: Thermoplastic acid modified polyolefin coating (TMPO)



Rohre, Formstücke und Zubehör aus duktilem Gusseisen - Anforderungen und Prüfverfahren für organische Beschichtungen von Formstücken und Zubehör aus duktilem Gusseisen - Teil 2: Thermoplastisch säuremodifizierte Polyolefin-Beschichtung



Tuyaux, raccords et accessoires en fonte ductile - Prescriptions et méthodes d'essai relatives aux revêtements organiques des raccords et accessoires en fonte ductile - Partie 2 : Revêtement thermoplastique en polyoléfine modifiée par un acide (TPMA)

**Ta slovenski standard je istoveten z:** **EN 14901-2:2019**

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**ICS:**

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|---|---|---|
| 23.040.10 | Železne in jeklene cevi | Iron and steel pipes |
| 23.040.40 | Kovinski fitingi | Metal fittings |
| 25.220.60 | Organske prevleke | Organic coatings |

**SIST EN 14901-2:2020** **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 14901-2

November 2019

ICS 23.040.10; 23.040.40; 25.220.60

English Version

# Ductile iron pipes, fittings and accessories - Requirements and test methods for organic coatings of ductile iron fittings and accessories - Part 2: Thermoplastic acid modified polyolefin coating (TMPO)

Tuyaux, raccords et accessoires en fonte ductile - Prescriptions et méthodes d'essai relatives aux revêtements organiques des raccords et accessoires en fonte ductile - Partie 2 : Revêtement thermoplastique en polyoléfine modifiée par un acide (TPMA)

Rohre, Formstücke und Zubehör aus duktilem Gusseisen - Anforderungen und Prüfverfahren für organische Beschichtungen von Formstücken und Zubehör aus duktilem Gusseisen - Teil 2: Beschichtung aus thermoplastisch säuremodifiziertem Polyolefin

This European Standard was approved by CEN on 16 September 2019.



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

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## European foreword

This document (EN 14901-2:2019) 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 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 May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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## Introduction

This document is in conformity with the general requirements already established by CEN/TC 164 in the field of water supply (e.g. potable water), CEN/TC 165 in the field of wastewater and CEN/TC 234 in the field of gas distribution.

With respect to potential adverse effects on the quality of water intended for human consumption caused by the product covered by this document:

a) this document provides no information 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 document defines the requirements and test methods for factory applied thermoplastic acid modified polyolefin (TMPO) coatings used for the protection of ductile iron fittings and accessories according to EN 545, EN 598:2007+A1:2009, EN 969, EN 12842 and EN 14525:

— conveying water (e.g. potable water, raw water, …) at operating temperature up to 50 °C; or

— conveying waste water at operating temperature up to 45 °C; or

— conveying gas at operating temperature up to 50 °C;

— suitable for external environments, i.e. soils, waters and atmospheres of all common corrosion loads, characterized in D.2.3 of EN 545:2010.

# 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.

EN 545:2010, *Ductile iron pipes, fittings, accessories and their joints for water pipelines - Requirements and test methods*

EN 598:2007+A1:2009, *Coated and lined ductile iron pipes, fittings and their joints for sewerage and drainage applications - Product characteristics and test and assessment methods*



EN 805, *Water supply - Requirements for systems and components outside buildings*



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

EN 12842, *Ductile iron fittings for PVC-U or PE piping systems - Requirements and test methods*

EN 14525, *Ductile iron wide tolerance couplings and flange adaptors for use with pipes of different materials: ductile iron, Grey iron, Steel, PVC-U PE, Fibre-cement*

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

EN 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 8501-1)*

## 3 Terms and definitions

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

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

**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 or accessory which allows pipe network deviation, change of direction or bore

Note 1 to entry: Flanged-socket pieces, flanged spigot pieces and collars are also classified as fittings.

**3.3**
**accessory**
any casting other than a pipe or fitting which is used in a water pipeline



Note 1 to entry: Examples for accessory are:



— valves;

— inspection chambers;

— manholes;

— glands for mechanical flexible joints;

— glands and locking rings for restrained flexible joints;

— pipe saddles for house connection;

— adjustable flanges.

**3.4**
**component**
product defined in 3.2 to 3.3

**3.5**
**adhesion**
force per unit area, applied perpendicular to the surface, which is necessary to separate the coating from its substrate

**3.6**
**impact strength**
impact energy which a coating can withstand without damage under specific test conditions

**3.7**
**indentation resistance**
resistance of the coating to the penetration of a punch under defined test conditions

**3.8**
**non porosity**
absence of electrical puncture in a high voltage test under defined test conditions

**3.9**
**thermoplastic acid modified polyolefin powder material**
**TMPO powder**
polyolefin resin in which a significant amount of carbon hydrogen chemical bonds is replaced by carboxylic acid functional groups

**3.10**
**thermoplastic acid modified polyolefin coating**
**TMPO coating**
factory applied coating with TMPO powder applied by sintering or flock spraying or dipping in fluidized bed on preheated parts or by electrostatic spraying and then heating the parts

**3.11**
**performance test**
test which is done once and is repeated only after change of coating material supplier, coating material or relevant change in process application



**3.12**
**routine test**
test carried out to control the manufacturing process with a frequency defined by the manufacturer of the coated ductile iron component



**3.13**
**designated zones**
areas of a casting where because of jointing tolerance restrictions, testing difficulties, or shrouding by a gasket, etc. a lower coating performance is unavoidable

Note 1 to entry: For the purpose of this standard these areas are defined as:

— joint areas;

— bolt holes;

— permitted markings;

— ribs;

— edges.

Note 2 to entry: Where considered necessary, these zones may be protected by appropriate additional corrosion protection measures during or after installation. However, such measures are not part of this standard.

**3.14**
**average thickness**
arithmetic mean of all thickness measurements taken on one coated item