



NSAI
Standards

Irish Standard
I.S. EN ISO 11177:2016

Vitreous and porcelain enamels - Inside and outside enamelled valves and pressure pipe fittings for untreated and potable water supply - Quality requirements and testing (ISO 11177:2016)

© CEN 2016 No copying without NSAI permission except as permitted by copyright law.

I.S. EN ISO 11177:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 11177:2016

Published:

2016-03-02

*This document was published
under the authority of the NSAI
and comes into effect on:*

2016-03-20

ICS number:

25.220.50

91.140.60

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 11177:2016 is the adopted Irish version of the European Document EN ISO 11177:2016, Vitreous and porcelain enamels - Inside and outside enamelled valves and pressure pipe fittings for untreated and potable water supply - Quality requirements and testing (ISO 11177:2016)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 11177

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2016

ICS 25.220.50; 91.140.60

English Version

**Vitreous and porcelain enamels - Inside and outside
enamelled valves and pressure pipe fittings for untreated
and potable water supply - Quality requirements and
testing (ISO 11177:2016)**

Émaux vitrifiés - Robinetterie émaillée à l'intérieur et à
l'extérieur et raccords de tuyauterie pour conduites
forcées destinées à l'alimentation en eau non traitée et
en eau potable - Exigences de qualité et essais (ISO
11177:2016)

Emails und Emailierungen - Innen- und
außenemailierte Armaturen und
Druckrohrformstücke für die Roh- und
Trinkwasserversorgung - Qualitätsanforderungen und
Prüfung (ISO 11177:2016)

This European Standard was approved by CEN on 23 January 2016.

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 CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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.

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



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 11177:2016) has been prepared by Technical Committee CEN/TC 262 “Metallic and other inorganic coatings” the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 107 “Metallic and other inorganic coatings”.

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 September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

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

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

Endorsement notice

The text of ISO 11177:2016 has been approved by CEN as EN ISO 11177:2016 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

ISO
11177

First edition
2016-02-15

Vitreous and porcelain enamels — Inside and outside enamelled valves and pressure pipe fittings for untreated and potable water supply — Quality requirements and testing

*Émaux vitrifiés — Robinetterie émaillée à l'intérieur et à l'extérieur
et raccords de tuyauterie pour conduites forcées destinées à
l'alimentation en eau non traitée et en eau potable — Exigences de
qualité et essais*



Reference number
ISO 11177:2016(E)

© ISO 2016

ISO 11177:2016(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Sampling	2
5 Quality requirements and testing procedures	2
5.1 Enamelling surface quality	2
5.2 Coat thickness.....	2
5.3 Hardness.....	2
5.4 Resistance to thermal shock.....	2
5.5 Corrosion resistance to water and steam	2
5.6 Corrosion resistance to citric acid.....	3
5.7 Corrosion and chemical resistance to acid soil	3
5.8 Corrosion and chemical resistance to sub-surface migration of enamel after impact test...	3
5.9 Corrosion resistance after scratch damage.....	3
5.10 Corrosion resistance after abrasion damage	4
5.11 Resistance to climatic exposure and ultraviolet radiation.....	4
5.12 Physiological harmlessness	4
6 Test report	4
Bibliography	6

ISO 11177:2016(E)

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 documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 11177 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings*, in collaboration with Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Introduction

The requirements defined in this International Standard regarding the product quality of enamelled valves and pressure pipe fittings for untreated and potable water supply take into account the real stress conditions to which a component can be subjected in the course of its operating life. Typical types of stress are:

- during storage: climate, UV radiation, mechanical stress;
- during transportation: mechanical stress e.g. at certain points (impact), laterally (friction);
- during preparation for installation: cleaning agents, mechanical stress e.g. at certain points (impact), laterally (friction);
- during installation: mechanical stress;
- during operation: abrasion caused by the carried medium, corrosion from surrounding medium, mechanical stress from shifting ground loads, UV radiation with valves built in above ground.

Vitreous and porcelain enamels — Inside and outside enamelled valves and pressure pipe fittings for untreated and potable water supply — Quality requirements and testing

1 Scope

This International Standard specifies the requirements for product quality and product testing of enamelled valves and pressure pipe fittings for untreated and potable water supply. It is not applicable for chemical service glass-enamel and apparatus enamel.

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 2178, *Non-magnetic coatings on magnetic substrates — Measurement of coating thickness — Magnetic method*

ISO 6370-1, *Vitreous and porcelain enamels — Determination of the resistance to abrasion — Part 1: Abrasion testing apparatus*

ISO 6370-2, *Vitreous and porcelain enamels — Determination of the resistance to abrasion — Part 2: Loss in mass after sub-surface abrasion*

ISO 16474-1, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 16474-2, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps*

ISO 13807, *Vitreous and porcelain enamels — Determination of crack formation temperature in the thermal shock testing of enamels for the chemical industry*

ISO 15695, *Vitreous and porcelain enamels — Determination of scratch resistance of enamel finishes*

ISO 28706-2, *Vitreous and porcelain enamels — Determination of resistance to chemical corrosion — Part 2: Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids and/or their vapours*

EN 15771, *Vitreous and porcelain enamels — Determination of surface scratch hardness according to the Mohs scale*

DIN 50929-3, *Corrosion of metals — Probability of corrosion of metallic materials when subject to corrosion from the outside — Buried and underwater pipelines and structural components*

3 Terms and definitions

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

3.1

pore

defect in the enamel coat passed through from the base material

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-