

SLOVENSKI STANDARD

SIST EN ISO 28765:2016

01-april-2016

Nadomešča:

SIST EN ISO 28765:2012

Steklasti in porcelanski emajli - Projektiranje s steklastim emajlom zaščiteneih jeklenih rezervoarjev za skladiščenje ali pripravo vode ali komunalnih ali industrijskih odplak (ISO 28765:2016)

Vitreous and porcelain enamels - Design of bolted steel tanks for the storage or treatment of water or municipal or industrial effluents and sludges (ISO 28765:2016)

iTeh STANDARD PREVIEW

Emails und Emailierungen - Gestaltung von verschraubten Stahlbehältern für die Speicherung oder Behandlung von Wasser oder kommunalen und industriellen Abwässern und Abwasserschamm (ISO 28765:2016)

[SIST EN ISO 28765:2016](https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883-6122037c/sist-en-iso-28765-2016)

[https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-](https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883-6122037c/sist-en-iso-28765-2016)

Émaux vitrifiés - Conception de réservoirs en acier boulonnés pour le stockage ou le traitement des eaux ou des effluents d'eaux usées urbains ou industriels (ISO 28765:2016)

Ta slovenski standard je istoveten z: EN ISO 28765:2016

ICS:

23.020.10	Nepremične posode in rezervoarji	Stationary containers and tanks
25.220.50	Emajlne prevleke	Enamels

SIST EN ISO 28765:2016

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 28765:2016

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>

EUROPEAN STANDARD

EN ISO 28765

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 25.220.50

Supersedes EN ISO 28765:2011

English Version

Vitreous and porcelain enamels - Design of bolted steel tanks for the storage or treatment of water or municipal or industrial effluents and sludges (ISO 28765:2016)

Émaux vitrifiés - Conception de réservoirs en acier boulonnés pour le stockage ou le traitement des eaux ou des effluents d'eaux usées urbains ou industriels (ISO 28765:2016)

Emails und Emailierungen - Gestaltung von verschraubten Stahlbehältern für die Speicherung oder Behandlung von Wasser oder kommunalen und industriellen Abwässern und Abwasserschläm (ISO 28765:2016)

This European Standard was approved by CEN on 19 December 2015.

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.

(standards.iteh.ai)

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.

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-361322207221>

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 28765:2016
<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>

European foreword

This document (EN ISO 28765:2016) has been prepared by Technical Committee ISO/TC 107 "Metallic and other inorganic coatings" in collaboration with Technical Committee CEN/TC 262 "Metallic and other inorganic coatings" the secretariat of which is held by BSI.

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

This document supersedes EN ISO 28765:2011.

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.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of ISO 28765:2016 has been approved by CEN as EN ISO 28765:2016 without any modification.

[SIST EN ISO 28765:2016](https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016)

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 28765:2016

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>

INTERNATIONAL
STANDARD

ISO
28765

Second edition
2016-01-15

**Vitreous and porcelain enamels —
Design of bolted steel tanks for the
storage or treatment of water or
municipal or industrial effluents and
sludges**

*Émaux vitrifiés — Conception de réservoirs en acier boulonnés pour
le stockage ou le traitement des eaux ou des effluents d'eaux usées
urbains ou industriels*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 28765:2016](https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016)

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>



Reference number
ISO 28765:2016(E)

© ISO 2016

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 28765:2016

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>



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	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and abbreviated terms	4
5 Units	5
6 Information and requirements to be agreed and documented	6
6.1 General	6
6.2 Information to be provided by the purchaser	6
6.3 Information to be provided by the designer	7
7 Applicable standards	7
8 Loads	7
8.1 General	7
8.2 Contents	8
8.2.1 General	8
8.2.2 Freeboard	8
8.2.3 Hydrostatic pressure	8
8.2.4 Axial wall forces	8
8.2.5 Filling and discharging	8
8.3 Tank structure	9
8.4 Roof	9
8.5 Equipment loads	9
8.5.1 General	9
8.5.2 Static load	9
8.5.3 Dynamic load	9
8.6 Access	9
8.7 Environmental	10
8.7.1 General	10
8.7.2 Seismic action	10
8.7.3 Wind	10
8.7.4 Snow	10
8.7.5 Ice	10
8.8 Ancillary items	10
9 Design	10
9.1 General	10
9.2 Steel	11
9.2.1 Specification	11
9.2.2 Effects of the enamelling process	11
9.3 Tank	11
9.3.1 Load factors	11
9.3.2 Tank walls	12
9.3.3 Tank roof	15
9.3.4 Attachment of walls to floor	15
9.3.5 Tank floor	15
9.3.6 Ancillary items	16
9.3.7 Cathodic protection	16
9.4 Openings	16
9.4.1 Access manway	16
9.4.2 Pipe connections	16
9.4.3 Overflows	16
9.4.4 Reinforcement of manways and pipe connections in the tank shell	17

ISO 28765:2016(E)

9.4.5	Connections in the roof.....	17
9.5	Effects of accidents.....	17
9.5.1	Risk assessment.....	17
9.5.2	Explosions.....	17
9.5.3	Uncontrolled fluctuation in input stream characteristics.....	18
10	Vitreous-enamel coating.....	18
10.1	Vitreous enamel.....	18
10.2	Coating.....	18
10.3	Vitreous-enamel quality.....	18
10.3.1	Preparation and test frequency.....	18
10.3.2	Inspection.....	18
10.3.3	On-site rectification.....	19
10.4	Protection during shipping.....	23
10.5	Maintenance.....	23
11	Installation.....	23
11.1	General guidance.....	23
11.2	Foundations.....	23
11.3	Inspection of the vitreous-enamel coating at the construction site.....	23
12	Disinfection.....	23
	Bibliography.....	24

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 28765:2016](https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016)

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>

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](#)

The committee responsible for this document is ISO/TC 107, *Metallic and other inorganic coatings*.

This second edition cancels and replaces the first edition (ISO 28765:2008), which has been technically revised.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 28765:2016

<https://standards.iteh.ai/catalog/standards/sist/118fe7c6-8f94-46bb-980e-883cfd23027c/sist-en-iso-28765-2016>