

**Terastorude sise- ja/või väliskaitsekatted.
Automatiseeritud tehastes
kuumsukelgalvaanimise teel valmistatud katete
tehnilised andmed**

Internal and/or external protective coatings for steel tubes - Specification for hot dip galvanized coatings applied in automatic plants

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 10240:1999 sisaldab Euroopa standardi EN 10240:1997 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 23.11.1999 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 10240:1999 consists of the English text of the European standard EN 10240:1997.

This standard is ratified with the order of Estonian Centre for Standardisation dated 23.11.1999 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 23.040.10, 25.220.40, 77.140.75

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

ICS 23.040.10; 25.220.40; 77.140.75

Descriptors: Coatings, steel pipes.

English version

Internal and/or external protective coatings for steel tubes
Specification for hot dip galvanized coatings applied in automatic plants

Revêtements intérieurs et/ou
extérieurs des tubes en acier –
Spécifications pour revêtements à
chaud sur des lignes automatiques

Innere und/oder äußere Schutzüber-
züge für Stahlrohre – Festlegungen
für durch Schmelztauchverzinken in
automatisierten Anlagen hergestellte
Überzüge

This European Standard was approved by CEN on 1997-08-09.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Contents

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Definitions	5
4 Designation of coating quality	6
5 Information to be supplied by the purchaser.....	6
6 Hot dip galvanizing process.....	7
7 General requirements of the coating	7
8 Special requirements of the coating	8
9 Inspection.....	10
10 Sampling	10
11 Inspection and test methods	11
12 Post galvanizing treatment.....	13
13 Marking.....	14
Annex A (normative) Condition of the tube to be coated	14
Annex B (normative) Method of determination of the local coating thickness using the magnetic method (ISO 2178)	14
Annex C (normative) Method of determination of the mass of the coating per unit area using the gravimetric method (EN ISO 1460)	15
Annex D (informative) Guidelines for the galvanizer's procedure for non-specific inspection and testing of coating quality A.1 in accordance with EN 10021 - Frequency of inspection and testing.....	17

Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

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 June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

The European Committee for Iron and Steel Standardization (ECISS) instructed the Technical Committee ECISS/TC 29 to draw up a European Standard for hot dip galvanized coatings for steel tubes.

This task has been undertaken by the sub-committee ECISS/TC 29/SC 4, the secretariat of which is held by the Association Française de Normalisation (AFNOR). The sub-committee has recognised that the quality required of a hot dip galvanized coating depends on the intended application of the steel tubes and it must relate to the capabilities of the process by which the coating is applied. Consequently this standard specifies a number of coating qualities each with different coating requirements for hot dip galvanized coatings applied to steel tubes in automatic plants. The purchaser is required to specify one of these coating qualities in his enquiry and order.

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

- 1) this standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA ;
- 2) 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.

No EURONORM is replaced by this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

1.1 This European Standard specifies the requirements and tests for hot dip galvanized coatings applied to steel tubes hot dip galvanized in automatic plants (see 3.9) for the following :

- a) gas and water installations, including water intended for human consumption ;
- b) other applications e.g. scaffold tubes, structural hollow sections.

NOTE 1 : Subsequently in this European Standard, the term "tube" includes "hollow section".

NOTE 2 : Hot dip galvanized coatings for steel tubes fabricated (see 3.10) subsequent to manufacture or hot dip galvanized in non-automatic plants are specified in prEN ISO 1461. Hot dip galvanized coatings for steel tube fittings and accessories are within the scope of sub-committee ECISSTC 29/SC 3.

1.2 In addition to the requirements of this European Standard the general technical delivery requirements specified in EN 10021 apply.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1179	Zinc and zinc alloys - Primary zinc
EN 10021	General technical delivery requirements for steel and iron products
EN 10204	Metallic products - Types of inspection documents (including amendment A1:1995)
EN 10232	Metallic materials - Tube (in full section) - Bend test
EN 10233	Metallic materials - Tube - Flattening test
prEN 10266 ¹⁾	Steel tubes, fittings and structural hollow sections - Definitions and symbols for use in product standards
EN ISO 1460	Metallic coatings - Hot dip galvanized coatings on ferrous materials - Gravimetric determination of the mass per unit area
prEN ISO 1461 ¹⁾	Hot dip galvanized coatings on fabricated ferrous products - Specification

¹⁾ In preparation ; until this document is published as a European Standard, a corresponding national standard should be agreed at the time of enquiry and order.

EN ISO 1463	Metallic and oxide coatings - Measurement of coating thickness - Microscopical method
EN ISO 9001	Quality systems - Model for quality assurance in design, development, production, installation and servicing
EN ISO 9002	Quality systems - Model for quality assurance in production, installation and servicing
ISO 2178	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method

3 Definitions

For the purpose of this European Standard, the following definitions apply, in addition to those of prEN 10266 :

3.1 hot dip galvanizing

Formation of a coating of zinc and/or zinc-iron alloys produced by dipping prepared steel in molten zinc.

3.2 hot dip galvanized coating (subsequently referred to as "the coating")

The coating consisting of zinc-iron alloys usually covered by zinc, obtained by hot dip galvanizing.

3.3 coating mass

The total mass of zinc and/or zinc-iron alloys per unit area of surface (expressed in grammes per square metre, g/m²).

3.4 coating thickness

The total thickness of zinc and/or zinc-iron alloys (expressed in micrometers, μm).

3.5 local coating thickness

The mean value of coating thickness obtained from the specified number of measurements within a reference area for a magnetic test or determined from the single value from a gravimetric test.

3.6 local coating mass

The value of coating mass obtained from a single gravimetric test.