

საქართველოს სტანდარტი

ლითონის სამრეწველო მილგაყვანილობა - ნაწილი 8: დამატებითი მოთხოვნები ალუმინისა და ალუმინის შენადნობის მილგაყვანილობისათვის

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

საინფორმაციო მონაცემები

1 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტებისა
და მეტროლოგიის ეროვნული სააგენტოს 2018 წლის 11 მაისის № 54 და 2018 წლის 7 მარტის № 14 განკარგულებებით

2 მიღებულია თავფურცლის თარგმნის მეთოდით სტანდარტიზაციის ევროპული
კომიტეტის სტანდარტი ენ 13480-8:2017 „ლითონის სამრეწველო მიღვანილობა -
ნაწილი 8: დამატებითი მოთხოვნები ალუმინისა და ალუმინის შენადნობის
მიღვანილობისათვის”

3 პირველად

4 რეგისტრირებულია საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტოს რეგისტრში: 2018 წლის 11 მაისი
№268-1.3-013367

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით
გავრცელება

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13480-8

June 2017

ICS 23.040.01

Supersedes EN 13480-8:2012

English Version

Metallic industrial piping - Part 8: Additional requirements
for aluminium and aluminium alloy piping

Tuyauteries industrielles métalliques - Partie 8 :
Exigences complémentaires relatives aux tuyauteries
en aluminium et alliages d'aluminium

Metallische industrielle Rohrleitungen - Teil 8:
Zusatzanforderungen an Rohrleitungen aus Aluminium
und Aluminiumlegierungen

This European Standard was approved by CEN on 21 June 2017.

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, Serbia, 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.....	4
1 Scope	6
2 Normative references	6
3 Terms, definitions, symbols and units	8
4 General requirements	8
5 Materials.....	8
5.1 General.....	8
5.2 Material grouping system	8
5.3 Elongation after fracture	9
5.4 Chemical composition	10
5.5 Lamellar tearing	10
5.6 Design temperature and properties.....	10
5.7 Prevention of brittle fracture	10
5.8 Specific requirements for fasteners made of aluminium and aluminium alloys	11
5.9 Lined piping	11
5.10 Clad products	11
5.11 Technical delivery conditions for welding consumables	11
6 Design	11
6.1 General.....	11
6.2 Time-independent nominal design stress	11
6.3 Straight pipes.....	12
6.4 Pipe bends and elbows.....	12
6.5 Mitre bends.....	12
6.6 Socket welds.....	14
6.7 Designing with transition joints	14
6.7.1 Design considerations	14
6.7.2 Location of transition joints	14
6.7.3 Requirements for transition joints	14
6.8 Port-hole extruded tubes	14
6.9 Alternative methods	14
7 Fabrication and installation	15
7.1 General.....	15
7.2 Material grouping	15
7.3 Tolerances	15
7.3.1 Welded pipes and connection dimensions of pipe fittings	15
7.3.2 Welded piping construction	15
7.4 Cutting and bevelling	16
7.5 Bending and other forming	16
7.5.1 General.....	16
7.5.2 Definition of cold- and hot forming	16
7.5.3 Heat treatment after cold forming	16
7.5.4 Heat treatment after hot forming.....	18

7.6	Welding	19
7.6.1	Welding personnel.....	19
7.6.2	Welding processes.....	19
7.6.3	Weld joint preparation	19
7.6.4	Preheating.....	20
7.6.5	Backing rings and backing strips	21
7.6.6	Post-weld heat treatment (PWHT).....	21
8	Inspection and testing.....	21
8.1	General	21
8.2	Formed pressure retaining parts.....	22
8.2.1	General	22
8.2.2	Testing of formed parts	22
8.2.3	Destructive testing of formed and heat treated parts	22
8.3	Welding	23
8.4	Visual and non-destructive testing of welds.....	23
8.4.1	Application of NDT	23
8.4.2	Circumferential, branch, socket and seal welds	23
8.4.3	Longitudinal welds and spiral welded tubes/pipes.....	24
8.5	VT and NDT Methods	24
8.6	Production test plates for welded pipes.....	25
9	Final assessment and documentation.....	26
9.1	General	26
9.2	Pneumatic pressure test	27
9.3	Documentation for components	27
	Annex A (informative) Dimensional tolerances	29
	Annex B (normative) Transition joints	31
	Annex C (normative) Nominal design stress values.....	36
	Annex Y (informative) History of EN 13480-8.....	43
	Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2014/68/EU aimed to be covered	44
	Bibliography	45

European foreword

This document (EN 13480-8:2017) has been prepared by Technical Committee CEN/TC 267 "Industrial piping and pipelines", 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 December 2017, and conflicting national standards shall be withdrawn at the latest by December 2017.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard EN 13480 for metallic industrial piping consists of eight interdependent and not dissociable Parts which are:

- *Part 1: General;*
- *Part 2: Materials;*
- *Part 3: Design and calculation;*
- *Part 4: Fabrication and installation;*
- *Part 5: Inspection and testing;*
- *Part 6: Additional requirements for buried piping;*
- *CEN/TR 13480-7, Guidance on the use of conformity assessment procedures;*
- *Part 8: Additional requirements for aluminium and aluminium alloy piping.*

Although these Parts may be obtained separately, it should be recognised that the Parts are interdependent. As such the manufacture of metallic industrial piping requires the application of all the relevant Parts in order for the requirements of the Standard to be satisfactorily fulfilled.

This European Standard will be maintained by a Maintenance MHD working group whose scope of working is limited to corrections and interpretations related to EN 13480.

The contact to submit queries can be found at <http://www.unm.fr> (en13480@unm.fr). A form for submitting questions can be downloaded from the link to the MHD website. After subject experts have agreed an answer, the answer will be communicated to the questioner. Corrected pages will be given specific issue number and issued by CEN according to CEN Rules. Interpretation sheets will be posted on the website of the MHD.

This document supersedes EN 13480-8:2012. This new edition incorporates the Amendments/the corrigenda which have been approved previously by CEN members, and the corrected pages up to Issue 4 without any further technical change. Annex Y provides details of significant technical changes between this European Standard and the previous edition.

Amendments to this new edition may be issued from time to time and then used immediately as alternatives to rules contained herein.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.