

**METALLIST TÖÖSTUSTORUSTIK
OSA 8: TÄIENDAVAL NÕUDED ALUMIINIUMIST JA
ALUMIINIUMSULAMIST TORUDELE**

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

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN 13480-8:2016 sisaldab Euroopa standardi EN 13480-8:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 13480-8:2016 consists of the English text of the European standard EN 13480-8:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.06.2012.	Date of Availability of the European standard is 27.06.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 23.040.01

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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 8 May 2012.

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Foreword

This document (EN 13480-8:2012) 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of an identical text or by endorsement, at the latest by December 2012, and conflicting national standards shall be withdrawn at the latest by December 2012.

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 inter-dependant. 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 13480-8:2007+A1:2011. This new edition incorporates the Amendments/the corrigenda which have been approved previously by CEN members, and the corrected pages up to Issue 17 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. It is intended to deliver a new Issue of EN 13480:2012 each year, consolidating these Amendments and including other identified corrections. Issue 4 (2016-07) consolidates Amendment EN 13480-8:2012/A2:2015; it includes the corrected pages listed in Annex Y.

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.

1 Scope

This Part of EN 13480 specifies requirements for industrial piping systems made of aluminium and aluminium alloys in addition to the general requirements for industrial piping according to the series of standards EN 13480 and CEN/TR 13480-7.

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.

EN 485-2:2013, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 2: Mechanical properties*

EN 485-3, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 3: Tolerances on dimensions and form for hot-rolled products*

EN 485-4, *Aluminium and aluminium alloys — Sheet, strip and plate — Part 4: Tolerances on shape and dimensions for cold-rolled products*

EN 573-3:2013, *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition and form of products*

EN 586-2:1994, *Aluminium and aluminium alloys — Forgings — Part 2: Mechanical properties and additional property requirements*

EN 754 (all parts), *Aluminium and aluminium alloys — Cold drawn rod/bar and tube*

EN 755 (all parts), *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles*

EN 764-3, *Pressure equipment — Part 3: Definition of parties involved*

EN 1779:1999, *Non-destructive testing — Leak testing — Criteria for method and technique selection*

EN 10204:2004, *Metallic products — Types of inspection documents*

EN 12392:2000, *Aluminium and aluminium alloys — Wrought products — Special requirements for products intended for the production of pressure equipment*

EN 13445-4:2014, *Unfired pressure vessels — Part 4: Fabrication*

EN 13480-1:2012, *Metallic industrial piping — Part 1: General*

EN 13480-2:2012, *Metallic industrial piping — Part 2: Materials*

EN 13480-3:2012, *Metallic industrial piping — Part 3: Design and calculation*

EN 13480-4:2012, *Metallic industrial piping — Part 4: Fabrication and installation*

EN 13480-5:2012, *Metallic industrial piping — Part 5: Inspection and testing*

EN ISO 148-1:2010, *Metallic materials — Charpy pendulum impact test — Part 1: Test method (ISO 148-1:2009)*

EN ISO 3452-1:2013, *Non-destructive testing — Penetrant testing — Part 1: General principles (ISO 3452-1:2013)*

EN ISO 3834-2:2005, *Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements (ISO 3834-2:2005)*

EN ISO 3834-3:2005, *Quality requirements for fusion welding of metallic materials — Part 3: Standard quality requirements (ISO 3834-3:2005)*

EN ISO 4063:2010, *Welding and allied processes — Nomenclature of processes and reference numbers (ISO 4063:2009, Corrected version 2010-03-01)*

EN ISO 4136:2012, *Destructive tests on welds in metallic materials — Transverse tensile test (ISO 4136:2012)*

EN ISO 5173:2010 + A1:2011, *Destructive tests on welds in metallic materials — Bend tests (ISO 5173:2009 + Amd 1:2011)*

EN ISO 6892-1:2009, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2009)*

EN ISO 6892-2:2011, *Metallic materials — Tensile testing — Part 2: Method of test at elevated temperature (ISO 6892-2:2011)*

EN ISO 7438:2005, *Metallic materials — Bend test (ISO 7438:2005)*

EN ISO 9606-2:2004, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys (ISO 9606-2:2004)*

EN ISO 10042:2005, *Welding — Arc-welded joints in aluminium and its alloys — Quality levels for imperfections (ISO 10042:2005)*

EN ISO 10893-8:2011, *Non-destructive testing of steel tubes — Part 8: Automated ultrasonic testing of seamless and welded steel tubes for the detection of laminar imperfections (ISO 10893-8:2011)*

EN ISO 10893-11:2011, *Non-destructive testing of steel tubes — Part 11: Automated ultrasonic testing of the weld seam of welded steel tubes for the detection of longitudinal and/or transverse imperfections (ISO 10893-11:2011)*

EN ISO 11666:2010, *Non-destructive testing of welds — Ultrasonic testing — Acceptance levels (ISO 11666:2010)*

EN ISO 15614-2:2005, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys (ISO 15614-2:2005)*

EN ISO 16810:2014, *Non-destructive testing — Ultrasonic testing — General principles (ISO 16810:2012)*

EN ISO 16811:2014, *Non-destructive testing — Ultrasonic testing — Sensitivity and range setting (ISO 16811:2012)*

EN ISO 16823:2014, *Non-destructive testing — Ultrasonic testing — Transmission technique (ISO 16823:2012)*

EN ISO 16826:2014, *Non-destructive testing — Ultrasonic testing — Examination for discontinuities perpendicular to the surface (ISO 16826:2012)*

EN ISO 16827:2014, *Non-destructive testing — Ultrasonic testing — Characterization and sizing of discontinuities (ISO 16827:2012)*

EN ISO 16828:2014, *Non-destructive testing — Ultrasonic testing — Time-of-flight diffraction technique as a method for detection and sizing of discontinuities (ISO 16828:2012)*

EN ISO 17636-1:2013, *Non-destructive testing of welds — Radiographic testing — Part 1: X- and gamma-ray techniques with film (ISO 17636-1:2013)*

EN ISO 17636-2:2013, *Non-destructive testing of welds — Radiographic testing — Part 2: X- and gamma-ray techniques with digital detectors (ISO 17636-2:2013)*

EN ISO 17637:2011, *Non-destructive testing of welds — Visual testing of fusion-welded joints* (ISO 17637:2003)

EN ISO 17639:2013, *Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds* (ISO 17639:2003)

EN ISO 17640:2010, *Non-destructive testing of welds — Ultrasonic testing — Techniques, testing levels, and assessment* (ISO 17640:2010)

EN ISO 23277:2009, *Non-destructive testing of welds — Penetrant testing of welds — Acceptance levels* (ISO 23277:2006)

CEN ISO/TR 15608:2013, *Welding — Guidelines for a metallic materials grouping system* (ISO/TR 15608:2013)

ISO 857-1:1998, *Welding and allied processes — Vocabulary — Part 1: Metal welding processes*

3 Terms, definitions, symbols and units

For the purposes of this document, the terms, definitions, symbols and units of EN 13480-1:2012, EN 13480-2:2012, EN 13480-3:2012, EN 13480-4:2012 and EN 13480-5:2012 apply.

4 General requirements

The general requirements of EN 13480-1 shall apply.

5 Materials

5.1 General

Materials for pressure-bearing parts compliant with the requirements of this European Standard shall be accompanied by inspection documents in accordance with EN 10204:2004.

The type of inspection document shall be in accordance with EN 764-5:2002 and include a declaration of compliance to the material specification.

The requirements of EN 13480-2:2012 shall apply with the following additions/exclusions:

5.2 Material grouping system

Annex A of EN 13480-2:2012 is not applicable for aluminium and aluminium alloys. The allowable materials for industrial piping of aluminium and aluminium alloys shall be according to Table 5.2-1.

Any product form available in the EN standards referenced in Annex C for a material and temper listed in Table 5.2-1 is acceptable for construction to this European Standard. Other materials not defined here may be used by agreement (see EN 13480-2:2012, 4.3) if they meet the requirements of 5.2 and 5.3 of this standard and a Particular Material Appraisal is produced (see EN 764-4:2002).