

LEEKKUUMUTUSETA SURVEANUMAD. OSA 8:
TÄIENDAVALD NÕUDED ALUMIINIUMIST VÕI
ALUMIINIUMSULAMIST SURVEANUMATELE

Unfired pressure vessels - Part 8: Additional
requirements for pressure vessels of aluminium and
aluminium alloys

EESTI STANDARDI EESSÕNA

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EUROPEAN STANDARD

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Unfired pressure vessels - Part 8: Additional requirements for pressure vessels of aluminium and aluminium alloys

Réceptifs sous pression non soumis à la flamme -
Partie 8: Exigences complémentaires pour les
réceptifs sous pression en aluminium et alliages
d'aluminium

Unbefeuerte Druckbehälter - Teil 8: Zusätzliche
Anforderungen an Druckbehälter aus Aluminium und
Aluminiumlegierungen

This European Standard was approved by CEN on 24 February 2021.

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COMITÉ EUROPÉEN DE NORMALISATION
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Contents

	Page
European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms, definitions, symbols and units	7
4 General	7
5 Materials	7
5.1 General	7
5.2 Elongation after fracture	7
5.3 Prevention of brittle fracture	7
5.4 Lamellar tearing	8
5.5 Chemical composition	8
5.6 Material grouping system	8
6 Design	9
6.1 General	9
6.2 Design temperature and properties	9
6.3 Time-independent nominal design stress	9
6.4 Thick walled, small bore piping for shells	10
6.5 Fatigue design	10
6.6 Lapped joints, joggle joints, permanent backing strips	10
6.6.1 General	10
6.6.2 Lapped joints	10
6.6.3 Joggle joints	11
6.6.4 Joints with permanent backing strips	11
6.7 Flat ends	11
6.8 Design by experiment	12
6.9 Port-hole-extruded tubes	12
7 Manufacture	12
7.1 General	12
7.2 Materials	12
7.3 Tolerances	12
7.4 Welding procedure specification (WPS)	13
7.5 Qualification of welding procedure specifications (WPQR)	13
7.6 Qualification of welders and welding operators	13
7.7 Joint preparation	13
7.8 Preheat	14
7.9 Production test, reference criteria	14
7.10 Extent of testing	15
7.11 Performance of test and acceptance criteria	15
7.12 Forming procedures	15
7.13 Heat treatment after forming	16
7.14 Sampling of formed products	17

7.15	Tests	18
7.15.1	Base material	18
7.15.2	Butt welds.....	18
7.16	Post weld heat treatment (PWHT)	18
8	Inspection and testing.....	18
8.1	General	18
8.2	Non-destructive testing of welded joints	19
8.2.1	General	19
8.2.2	Demonstration of satisfactory experience for testing group 2	20
8.2.3	Symbols	20
8.3	Determination of extent of non destructive testing.....	20
8.4	Applicable non-destructive testing techniques	23
8.4.1	NDT methods.....	23
8.4.2	Acceptance criteria for radiographic testing (RT)	24
8.4.3	Acceptance criteria for visual and surface penetrant testing	24
8.4.4	Acceptance criteria for penetrant testing (PT).....	25
8.5	Selection of non-destructive testing methods for internal imperfections.....	25
8.6	Standard hydrostatic test	26
8.7	Pneumatic testing.....	26
9	Inspection and testing of serially produced pressure vessels — Model approval.....	26
9.1	General	26
9.2	Inspection and testing of pressure vessels subject to cyclic loads	26
Annex A (normative)	Allowable design strength values	27
A.1	General	27
A.2	Extruded rod/bar, tube and profile	27
A.3	Cold drawn rod/bar and tube	29
A.4	Forgings.....	30
Annex Y (informative)	History of EN 13445-8.....	34
Y.1	Differences between EN 13445-8:2014 and EN 13445-8:2021	34
Annex ZA (informative)	Relationship between this European Standard and the essential requirements of Directive 2014/68/EU aimed to be covered	35
Bibliography	37

European foreword

This document (EN 13445-8:2021) has been prepared by Technical Committee CEN/TC 54 “Unfired pressure vessels”, 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 November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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

This document has been prepared under a standardization request 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.

list of all parts in the EN 13445 series can be found on the CEN website.

Although these Parts may be obtained separately, it should be recognised that the Parts are inter-dependant. As such the manufacture of unfired pressure vessels requires the application of all the relevant Parts in order for the requirements of the Standard to be satisfactorily fulfilled.

Corrections to the standard interpretations where several options seem possible are conducted through the Migration Help Desk (MHD). Information related to the Help Desk can be found at <http://www.unm.fr> (en13445@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 13445-8:2014. This new edition incorporates the Amendments which have been approved previously by CEN members, and the corrected pages up to Issue 5 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 13445:2021 each year, starting with the precedent as Issue 1, consolidating these Amendments and including other identified corrections.

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.

1 Scope

This document specifies requirements for unfired pressure vessels and their parts made of aluminium and aluminium alloys in addition to the general requirements for unfired pressure vessels under EN 13445:2021 Parts 1 to 5. This document specifies unfired pressure vessels for loads up to 500 full cycles.

NOTE Cast materials are not included in this version. Details regarding cast materials will be subject to an amendment to or a revision of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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 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 754-2:2013, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 2: Mechanical properties*

EN 755-1:2016, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 1: Technical conditions for inspection and delivery*

EN 755-2:2016, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 2: Mechanical properties*

EN 755-8:2016, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 8: Porthole tubes, tolerances on dimensions and form*

EN 764-5:2014, *Pressure Equipment — Part 5: Inspection documentation of metallic materials and compliance with the material specification*

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 13445-1:2021, *Unfired pressure vessels — Part 1: General*

EN 13445-2:2021, *Unfired pressure vessels — Part 2: Materials*

EN 13445-3:2021, *Unfired pressure vessels — Part 3: Design*

EN 13445-4:2021, *Unfired pressure vessels — Part 4: Fabrication*

EN 13445-5:2021, *Unfired pressure vessels — Part 5: Inspection and testing*

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 6520-1:2007, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding* (ISO 6520-1:2007)

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

EN ISO 14732:2013, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials* (ISO 14732:2013)

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

EN ISO 17635:2016, *Non-destructive testing of welds — General rules for metallic materials* (ISO 17635:2016)

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 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)

CR 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*