BSI Standards Publication

Unfired pressure vessels

Part 11: Additional requirements for pressure vessels of titanium and titanium alloys

National foreword

This British Standard is the UK implementation of EN 13445-11:2026. It supersedes BS EN 13445-11:2024, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PVE/1, Pressure Vessels.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

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English Version

Unfired pressure vessels - Part 11: Additional requirements for pressure vessels of titanium and titanium alloys

Récipients sous pression non soumis à la flamme - Partie 11 : Exigences supplémentaires pour les récipients sous pression en titane et alliage de titane

Unbefeuerte Druckbehälter - Teil 11: Zusätzliche Anforderungen an Druckbehälter aus Titan und Titanlegierungen

This European Standard was approved by CEN on 24 June 2026.

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European foreword

This document (EN 13445-11:2026) 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of an identical text or by endorsement, at the latest by December 2026, and conflicting national standards shall be withdrawn at the latest by December 2026.

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 supersedes EN 13445-11:2024.

Annex Y provides details of corrections and changes between this European Standard and the previous edition.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

A 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 recognized that the Parts are interdependent. 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 https://unm.fr/en/maintenance-agencies/maintenance-agency-en-13445/. 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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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1 Scope

This document specifies requirements for unfired pressure vessels and their parts made of titanium and titanium alloys in addition to the general requirements for unfired pressure vessels under EN 13445-1:2026 to EN 13445-5:2026.

NOTE 1 Cast materials, HIP and additive manufacturing are not included in this version. Details regarding such materials will be subject to an amendment to or a revision of this European Standard.

NOTE 2 Materials in Groups 51.4 and 54 are not included in this version.

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 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 13445-1:2026, *Unfired pressure vessels — Part 1: General*

EN 13445-2:2026, *Unfired pressure vessels — Part 2: Materials*

EN 13445-3:2026, *Unfired pressure vessels — Part 3: Design*

EN 13445-4:2026, *Unfired pressure vessels — Part 4: Fabrication*

EN 13445-5:2026, *Unfired pressure vessels — Part 5: Inspection and testing*

EN ISO 148-1:2016, *Metallic materials — Charpy pendulum impact test — Part 1: Test method (ISO 148-1:2016)*

EN ISO 9606-5:2000, *Approval testing of welders — Fusion welding — Part 5: Titanium and titanium alloys, zirconium and zirconium alloys (ISO 9606-5:2000)*

EN ISO 15614-5:2024, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 5: Arc welding of titanium, zirconium and their alloys (ISO 15614-5:2024)*

EN ISO 15614-8:2016, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 8: Welding of tubes to tube-plate joints (ISO 15614-8:2016)*

EN ISO 15608:2025, *Welding — Grouping system for metallic materials (ISO 15608:2025)*