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BSI Standards Publication

Unfired pressure vessels

Part 501: Acoustic emission for pressure vessels

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National foreword

This Published Document is the UK implementation of CEN/TS 13445-501:2018.

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 secretary.

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Unfired pressure vessels - Part 501: Acoustic emission for pressure vessels

Réipients sous pression non soumis à la
flamme - Partie 501 : Émission acoustique

Unbefeuerte Druckbehälter - Teil 501:
Schallemissionen bei Druckbehältern

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European foreword

This document (CEN/TS 13445-501:2018) has been prepared by Technical Committee CEN/TC 54 "Unfired pressure vessels", the secretariat of which is held by BSI.

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1 Scope

This document is intended for the application of AT on metallic pressure equipment during controlled loading.

Therefore the overall aims of this document are:

- to detect, locate and grade areas with evolving imperfections;
- to provide the manufacturer the possibility to compare results of the first test with those of subsequent periodic inspections;
- to determine the possibilities and limits of AE testing (AT) for pressure equipment;
- to establish common basis for procedures to perform AT, taking into account the specific characteristics of the equipment under test;
- to define the criteria, features and grades essential for evaluation of test results;
- to suggest follow-ups to the test.

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 13445-5:2014, *Unfired pressure vessels — Part 5: Inspection and testing*

EN 1330-1:2014, *Non destructive testing — Terminology — Part 1: List of general terms*

EN 1330-2:1998, *Non destructive testing — Terminology — Part 2: Terms common to the non-destructive testing methods*

EN 1330-9, *Non-destructive testing — Terminology — Part 9: Terms used in acoustic emission testing*

EN 14584:2013, *Non-destructive testing — Acoustic emission testing — Examination of metallic pressure equipment during proof testing — Planar location of AE sources*

EN 13477-1, *Non-destructive testing — Acoustic emission — Equipment characterisation — Part 1: Equipment description*

EN 13477-2, *Non-destructive testing — Acoustic emission — Equipment characterisation — Part 2: Verification of operating characteristic*

EN ISO 9712:2012, *Non-destructive testing — Qualification and certification of NDT personnel (ISO 9712:2012)*

EN ISO/IEC 17025:2017, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1330-1, EN 1330-2 and EN 1330-9 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>