

**Non-destructive testing - Acoustic emission -
Examination of metallic pressure equipment during
proof testing - Planar location of AE sources**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14584:2013 sisaldab Euroopa standardi EN 14584:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 14584:2013 consists of the English text of the European standard EN 14584:2013.
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.
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English Version

**Non-destructive testing - Acoustic emission testing -
Examination of metallic pressure equipment during proof testing
- Planar location of AE sources**

Essais non destructifs - Émission acoustique - Vérification
des équipements métalliques sous pression pendant
l'épreuve

Zerstörungsfreie Prüfung - Schallemissionsprüfung -
Prüfung von metallischen Druckgeräten während der
Abnahmeprüfung - Planare Ortung von
Schallemissionsquellen

This European Standard was approved by CEN on 7 March 2013.

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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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Qualification of personnel	4
5 General.....	5
5.1 Initial considerations	5
5.2 Application of load.....	5
5.3 Sensors.....	5
5.4 Location	5
5.5 Preliminary information	6
5.6 Written instruction requirements	6
6 Instrumentation.....	7
7 Testing	7
7.1 Pre-test measurements	7
7.1.1 Wave propagation.....	7
7.1.2 Determination of maximum allowed sensor spacing.....	8
7.2 Test steps	10
7.2.1 General guidelines.....	10
7.2.2 In situ verification	10
7.2.3 Background noise.....	10
7.2.4 Pressurisation	11
8 Interpretation of results	11
8.1 Grading criteria	11
8.2 Real-time control.....	12
8.3 AE source location cluster severity grading	13
9 Test documentation.....	13
10 Test report	14
Annex A (normative) Procedure for the correction of peak amplitude with distance	15

Foreword

This document (EN 14584:2013) has been prepared by Technical Committee CEN/TC 138 “Non-destructive testing”, 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 November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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 supersedes EN 14584:2005.

Changes from the previous edition include:

- Clause 1: Applicability.
- Clause 4: Qualification of responsible test personnel AT2.
- Clause 8: Insertion of a further evaluation criteria about the occurrence of high energetic burst signals within a cluster.
- Annex A: Some clarifications for the recalculation according to the attenuation curve.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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 European Standard describes the method for conducting acoustic emission testing (AT) of metallic pressure equipment during acceptance pressure testing using a planar location method. This standard is applicable also for subsequent tests for requalification. General principles of Acoustic Emissions are described in EN 13554.

The objectives of the AE testing are to provide 100 % volumetric testing to define regions of the structure which are acoustically active with burst type AE, e.g. as a result of evolution of sub-critical discontinuities, thus increasing the reliability of the acceptance test. The test provides a reference map for comparison with results of future tests.

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 1330-1:1998, *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 1330-9:2009, *Non-destructive testing — Terminology — Part 9: Terms used in acoustic emission testing*

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 13554:2011, *Non-destructive testing — Acoustic emission testing — General principles*

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

EN ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1330-1:1998, EN 1330-2:1998 and EN 1330-9:2009 apply.

4 Qualification of personnel

Testing shall be carried out by proficient, suitably trained and qualified personnel at minimum level 2 according to EN ISO 9712. To demonstrate appropriate qualification, it is recommended that personnel be certified according to EN ISO 9712 or an equivalent formalised system. Operating authorisation for a qualified person shall be issued by the employer in accordance with a written procedure.

NDT operations, unless otherwise agreed, shall be authorised by a competent and qualified NDT supervisory individual (Level 3 according to EN ISO 9712 or equivalent) approved by the employer.