
ACUSTIC EMISION SELECTED CODES AND STANDARDS WORLDWIDE

- o American Society for Testing and Materials (ASTM)
- o American Society of Mechanical Engineers (ASME)
- o The Society of the Plastics Industry (SPI)
- o United States Department of Transportation (DOT)
- o Association of American Railroads (AAR)
- o Society of Automotive Engineers
- o U.S. Nuclear Regulatory Commission
- o Compressed Gas Association
- o American Petroleum Association
- o American Society for Nondestructive Testing (ASNT)
- o The European Working Group on Acoustic Emission (EWGAE)
- o The Japanese Society for NDI (NDIS)
- o UK Health and Safety Executive
- o DGZfP (German Society for Non Destructive Testing)
- o AFNOR (French Association for Standards)

THE EUROPEAN WORKING GROUP ON ACOUSTIC EMISSION (EWGAE)

1. EWGAE Codes for Acoustic Emission Examination: Code I - Location of Discrete Acoustic Events
2. EWGAE Codes for Acoustic Emission Examination: Code II - Leak Detection
3. EWGAE Codes for Acoustic Emission Examination: Code III - Examination of Small Parts
4. EWGAE Codes for Acoustic Emission Examination: Code IV - Definition of Terms in Acoustic Emission
5. EWGAE Codes for Acoustic Emission Examination: Code V - Recommended Practice for Specification, Coupling and Verification of the Piezoelectric Transducers used in Acoustic Emission

THE JAPANESE SOCIETY FOR NDI (NDIS)

1. Acoustic Emission Testing of Spherical Pressure Vessels made of High Tensile Strength Steel and Classification of Test Results", NDIS 2412-1980

UK HEALTH AND SAFETY EXECUTIVE

1. Storage of Anhydrous Ammonia under Pressure in the United Kingdom: HS/G 30, Her Majesty's Stationery Office, 1986

DGZfP (GERMAN SOCIETY FOR NON DESTRUCTIVE TESTING)

1. DGZfP-SE 1-89 Nondestructive Testing: Acoustic Emission Terms
2. DGZfP-SE 2-91 Guide line for AE Sensor Calibration (only index - text still not available in English)
3. DGZfP-SE 3-91 Guide line for Ae Characterization during AE Test. (only index - text still not available in English)

AFNOR (FRENCH ASSOCIATION FOR STANDARDS)

1. NF A09-350-84 Non Destructive Testing - Vocabulary used in Acoustic Emission
2. NF A09-351-84 Non Destructive Testing - Recommended Practice for the Location of Sources
3. NF A09-352-87 Non Destructive Testing - Acoustic Emission - Recommended Practices for Leak Detection
4. NF A09-353-85 Non Destructive Testing - Acoustic Emission - Determination of the Characteristics of an Acoustic Emission Channel
5. NF A09-354-85 Non Destructive Testing - Acoustic Emission - Designation of Piezoelectric Sensors and Technical Data to be Supplied by the Manufacturer
6. NF A09-355-85 Non Destructive Testing - Acoustic Emission - Coupling of Piezoelectric Sensors
7. NF A09-360-85 Non Destructive Testing - Acoustic Emission - Examination of Composite Material Parts and Structure
8. NF A09-390-89 Non Destructive Testing - Acoustic Emission - Acoustic Emission General Principles

Please note: There is no more work on AE at AFNOR. All new documents will be issued by CEN. As of now there are no approved CEN Codes.

ACOUSTIC EMISSION: SELECTED CODES AND STANDARDS (2)

SOCIETY OF THE PLASTICS INDUSTRY (SPI)

1. "Recommended Practice for Acoustic Emission Testing of Fiberglass Tanks/Vessels" (Reinforced Plastics/Composites Institute, 1982, revised 1987)
2. "Recommended Practice for Acoustic Emission Testing of Fiberglass Reinforced Plastic Piping Systems", (Session 4, 3:25-4:00) First International Symposium on Acoustic Emission from Reinforced Composites, The Society of the Plastics Industry, Inc. July 19-21, 1983

ASSOCIATION OF AMERICAN RAILROADS (AAR)

1. "Procedure for Acoustic Emission Evaluation of Tank Cars and IM-101 Tanks", First Issued 1, January 1991, periodically updated through Issue 6, 1997
2. Annex Z to the above procedure, originally issued as "Test Method to Meet FRA Request for Draft Sill Inspection Program, Docket T79.20-90 (BRW)", Preliminary 2, June 1991, periodically updated through Issue 4, 1997

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

1. "Proposed Standard for Acoustic Emission Examination During Application of Pressure" (1975)
2. "Use of Acoustic Emission Examination in Lieu of Radiography", Code Case No. 1968, Section VIII, Division 1 (1982)
3. "Acoustic Emission Examination of Fiber-Reinforced Plastic Vessels", Article 11, Subsection A, Section V, Boiler and Pressure Vessel Code (1983 and later editions)
4. "Acceptance Test Procedure for Class II Vessels", Article RT-6, Section X, Boiler and Pressure Vessel Code (December 1988 Addendum and later editions)
5. "Acoustic Emission Examination of Metallic Vessels During Pressure Testing", Article 12, Subsection A, Section V, Boiler and Pressure Vessel Code (December 1988 Addendum and later editions)
6. "Acoustic Emission for Successive Inspections Section XI, Div. 1", Case N-471, Supplement No. 5, Code Cases 1989 Edition, Nuclear Components, Boiler and Pressure Vessel Code
7. "Acoustic Emission Examination", Mandatory Appendix M-10, RTP-1, Reinforced Thermoset Plastic Corrosion Resistant Equipment, (1989)
8. "Continuous Acoustic Emission Monitoring", Article 13, Subsection A, Section V, Boiler and Pressure Vessel Code (1995 edition)
9. "Standard Test Method for Examination of Seamless, Gas Filled, Pressure Vessels Using Acoustic Emission", ASME SE1419 (Section V, Boiler and Pressure Vessel Code)

REGULATORY CODE VARIANCES AND EXEMPTIONS

1. DOT E-8944 (Tube Trailer Testing) to Amko/Praxair (1983-)
2. DOT E-10589 (Railroad Tank Car Testing) to Monsanto, GATX, UTLX, Dow Chemical (1995-)
3. DOT E-11059 (Tube Trailer Testing) to Bureau of Land Management (1993)
4. TC SR 4628 (Railroad Tank Car Testing) to Procor, PAC (1996)
5. DOT E-11850 (Halon Bottle Testing) to ATA (1998)

ACOUSTIC EMISSION: SELECTED CODES AND STANDARDS (1)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) (as of 1998 edition)

1. E 569-97 Standard Practice for Acoustic Emission Monitoring of Structures During Controlled Stimulation (orig.-76).
2. E 610-82 Standard Definitions of Terms Relating to Acoustic Emission (now incorporated into E 1316)
3. E 650-97 Standard Guide for Mounting Piezoelectric Acoustic Emission Sensors (orig.-85)
4. E 749-96 Standard Practice for Acoustic Emission Monitoring During Continuous Welding (orig.-80)
5. E 750-88 Standard Practice for Characterizing Acoustic Emission Instrumentation (reapproved 1993)
6. E 751-96 Standard Practice for Acoustic Emission Monitoring During Resistance Spot-Welding (orig.-80)
7. E 976-94 Standard Practice for Determining the Reproducibility of Acoustic Emission Sensor Response (orig.-84)
8. E 1002-96 Standard Method of Testing for Leaks Using Ultrasonics (orig.-86)
9. E 1067-96 Standard Practice for Acoustic Emission Examination of Fiberglass Reinforced Plastic Resin (FRP) Tanks/Vessels (orig.-85)
10. E 1106-86 Standard Method for Primary Calibration of Acoustic Emission Sensors (reapproved 1997)
11. E 1118-95 Standard Practice for Acoustic Emission Examination of Reinforced Thermosetting Resin Pipe (RTRP) (orig.-86)
12. E 1139-97 Standard Practice for Continuous Monitoring of Acoustic Emission from Metal Pressure Boundaries (orig.-87)
13. E 1211-97 Standard Practice for Leak Detection and Location Using Surface-Mounted Acoustic Emission Sensors (first publication)
14. E 1316-96 Standard Terminology for Nondestructive Examinations (orig.-89)
15. E 1419-96 Standard Test Method for Examination of Seamless, Gas Filled, Pressure Vessels Using Acoustic Emission (orig.-91)
16. E 1736-95 Standard Practice for Acousto-Ultrasonic Assessment of Filament-Wound Pressure Vessels (first publication)
17. E 1781-96 Standard Practice for Secondary Calibration of Acoustic Emission Sensors (first publication)
18. E 1888-97 Standard Test Method for Acoustic Emission Testing of Pressurized Containers Made of Fiberglass Reinforced Plastic with Balsa Wood Cores (first publication)
19. E 1930-97 Standard Test Method for Examination of Liquid-Filled Atmospheric and Low-Pressure Metal Storage Tanks Using Acoustic Emission (first publication)
20. E 1932-97 Standard Guide for Acoustic Emission Examination of Small Parts (first publication)
21. F 914-97 Standard Test Method for Acoustic Emission for Insulated Aerial Personnel Devices
22. F 1430-92 Standard Test Method for Acoustic Emission Testing of Insulated Aerial Personnel Devices with Supplemental Load Handling Attachments
23. F 1797-97 Standard Test Method for Acoustic Emission Testing of Insulated Digger Derricks

ASTM Standards under development during 1999 include test methods for fiberglass pressure vessels and fiberglass fan blades.