




Non-destructive Testing Classes of test

July 2014



© Copyright National Association of Testing Authorities, Australia 2014


This publication is protected by copyright under the Commonwealth of Australia Copyright Act 1968.

NATA's accredited facilities or facilities seeking accreditation may use or copy this publication or print or email this publication internally for accreditation purposes.

Individuals may store a copy of this publication for private non-commercial use or copy a reasonable portion of this publication in accordance with the fair dealing provisions in Part III Division 3 of the Copyright Act 1968.

You must include this copyright notice in its complete form if you make a copy of this publication.

Apart from these permitted uses, you must not modify, copy, reproduce, republish, frame, upload to a third party, store in a retrieval system, post, transmit or distribute this content in any way or any form or by any means without express written authority from NATA.



Non-destructive Testing - Classes of test

The following is a listing of the classes and subclasses of test available in the field of Non-destructive Testing.

- 6.01 Radiographic interpretation applicable to the following
 - .01 Welded joints
 - .02 Castings
 - .03 Wrought product
 - .04 Components, composite products and assemblies

- 6.03 Radiographic thickness testing
 - .01 Wall thickness measurement and profile radiography
 - .02 Qualitative material profiling (may involve low-intensity or pulsed sources)

- 6.04 Radiographic imaging capability
 - .01 Film
 - .02 Digital scanning of film images
 - .03 Image storage plates
 - .04 Direct imaging (digital radiography)

- 6.50 Ultrasonic examination of materials
 - .01 Ultrasonic A-Scan capability for listed ultrasonic testing applications
 - .02 Phased array capability for listed ultrasonic testing applications
 - .03 Time of flight diffraction capability for listed ultrasonic testing applications
 - .10 Welded ferritic steel joints
 - .11 Welded clad and overlaid steel joints
 - .12 Welded stainless steel and austenitic joints
 - .13 Welded aluminium alloy joints
 - .14 Welded joints in other specified metals
 - .20 Bonded metals - machine bearings
 - .21 Bonded metals - welded hard facings
 - .22 Bonded metals - other specified types of bonded metals
 - .30 Cast steel and iron product
 - .31 Cast aluminium alloy product
 - .41 Rolled or wrought steel product
 - .42 Rolled or wrought aluminium product, including extruded items
 - .80 Other examinations of specified metals
 - .90 Examinations of specified non-metallic items
 - .99 Product-specific ultrasonic technique capability, specified as follows

- 6.51 Ultrasonic thickness testing
 - .01 Material thickness - spot or grid measurements only
 - .02 Material profiling including assessment and characterisation of material loss

- .10 Mechanised thickness testing systems – specified techniques
- .20 Qualitative material profiling using guided wave analysis

- 6.61 Magnetic particle testing
 - .01 Magnetic flow method – AC magnetization
 - .02 Current flow method
 - .03 Coil method
 - .04 Magnetic flow method – DC magnetization using specified in-house methods

- 6.71 Penetrant testing
 - .01 Water washable method
 - .02 Solvent removable method
 - .03 Post emulsifiable method

- 6.81 Electromagnetic examination of materials
 - .11 Surface flaw detection using high frequency eddy current
 - .13 Sorting of materials by conductivity
 - .21 Sub-surface flaw detection using low frequency eddy current
 - .41 Remote field tube testing
 - .51 Eddy current tube testing
 - .55 Assessment of ferrite content
 - .60 Array eddy current for specified applications
 - .61 Alternating current field measurement
 - .62 Wire rope testing
 - .99 Other specified tests

- 6.82 Electromagnetic thickness testing
 - .01 Coating thickness measurement
 - .10 Qualitative material profiling using magnetic flux leakage
 - .11 Qualitative material profiling using low frequency eddy current
 - .12 Qualitative material profiling using pulsed eddy current

- 6.84 Acoustic emission fault detection for specified product types

- 6.85 Testing systems combining multiple NDT methods

- 6.91 Visual assessment of materials, prior to initial service
 - .01 Rolled product
 - .02 Welded joints
 - .03 Castings
 - .04 Forgings
 - .99 Other specified materials

- 6.92 Visual assessment of materials, during service life, for defined service applications
 - .01 Specified rolled items
 - .02 Specified welded joints
 - .03 Specified castings

- .04 Specified forgings
- .99 Other materials, for defined service applications
- 6.94 Comparative indication of material grade and alloy type
 - .01 Comparative indication using portable XRF equipment
 - .02 Comparative indication using portable spark emission equipment
- 6.97 Leak testing using differential pressure box
- 6.98 Equipment condition monitoring
 - .01 Fault detection by thermographic imaging
 - .02 Fault detection by vibration analysis using portable equipment
- 6.99 Other specified tests

Note 1: Qualitative (or “screening”) techniques are generally used for preliminary assessment of material degradation and are often used in conjunction with confirmatory testing (or “prove-up”)

Note 2: Restrictions applicable to visual assessment under 6.91 and 6.92 are covered under Annex 3.5. More general accreditation for inspection activities is covered under NATA’s inspection accreditation program and the criteria for accreditation are based on ISO/IEC 17020.

Amendments
Class of test 6.50.01, .02 and .03 each amended from:
...potential testing applications listed below, to;
...for listed ultrasonic testing applications