



Australian Government

**Assessment Requirements for
MEASTR0018 Evaluate aircraft
non-destructive tests**

Release: 1

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Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Assessment Requirements clarified. Supersedes and is equivalent to MEA424 Evaluate aircraft non-destructive tests.

Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria in this unit, and demonstrated the ability to:

- evaluate aircraft non-destructive tests (NDT) from the list below three times:
 - penetrant testing
 - magnetic particle testing
 - eddy current testing
 - ultrasonic testing
 - radiographic testing
- conduct metallurgical assessment of inspection areas and identify potential failure sites and modes to inform techniques and procedures
- designate most appropriate method, technique or procedure
- apply safety procedures, standard operating procedures and legislative requirements to all work
- read, interpret and apply relevant testing standards
- read and interpret applied relative conformance standards.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- definitions of structural terms, including safe life, damage tolerant, failsafe, stress, strain, shear and cycles
- inspection requirements for metal and composite structure, including:
 - ageing aircraft inspection requirements
 - safe life structure
 - damage tolerant structure
 - fail safe structure
- potential causes of structural failure
- metallurgical analysis to assess inspection areas and potential failure sites and modes
- NDT methods, techniques and procedures
- meaning and validity of relevant codes, standards, specifications and procedures

- regulatory requirements of the Australian Defence Force (ADF) and Civil Aviation Safety Authority (CASA) for using NDT for inspection of aircraft structure and components
- test procedures for testing techniques and specimens
- validation processes
- process for approval of procedures
- process for documentation/distribution of procedures
- evaluation procedures
- process for documentation of evaluation results
- process for amending tests and distributing amendments
- Australian Standards, National Occupational Health and Safety Council (NOHSC) guides, and state and territory regulatory codes of practice and standards, including:
 - Defence Aviation Safety Authority (DASA) AAP7002.053 Technical airworthiness Management Manual
 - Civil Aviation Safety Regulations (CASR)
 - overseas airworthiness regulators, such as the Federal Aviation Authority (FAA), European Aviation Safety Authority (EASA) and Transport Canada
 - AS 3669--2006 Non-destructive testing – Qualification and approval of personnel – Aerospace
 - NAS410 Revision 2 Certification and qualification of non-destructive testing personnel (February 2003)
 - BS EN 4179:2009 Aerospace series. Qualification and approval of personnel for non-destructive testing
 - BS EN 473:2008 Non-destructive testing. Qualification and certification of NDT personnel. General principles
 - ISO 9712:2005 Non-destructive testing – Qualification and certification of personnel
 - applicable materials and equipment specifications
- use and application of personal protective equipment (PPE)
- safe work practices and procedures
- relevant hazards and control measures related to the competency.
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Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in evaluating aircraft non-destructive tests (NDT), or a combination of both. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, product and manufacturing specifications, codes, standards, manuals, and reference materials relevant to evaluating aircraft non-destructive tests
 - tools, equipment and materials required.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors and must be qualified at AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace Level 3.

Links

Companion Volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>