



**Australian Government**

# **MEA424 Evaluate aircraft non-destructive tests**

**Release: 2**

## MEA424 Evaluate aircraft non-destructive tests

### Modification History

Release 2. Equivalent to MEA424 Evaluate aircraft non-destructive tests with amended prerequisite codes.

### Application

This unit of competency requires application of competencies relating to non-destructive testing (NDT) techniques and related metallurgical knowledge in the research, analysis, development and evaluation of NDT tests for aircraft structure and components to Level 3 (*AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace*) during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The work can relate to scheduled and unscheduled maintenance activities on the metallic and composite structure of aircraft and aircraft components

Certification against applicable standards may be achieved where assessment in this unit of competency is carried out in conjunction with an examining authority as described in ISO 9712:2005 Non-destructive testing – Qualification and certification of personnel.

The unit is part of the Diploma and Advanced Diplomas of Aeroskills (Non-Destructive Testing). The unit is similar to unit MEM24011B Establish non-destructive tests but observes the requirements of *AS 3669-2006 Non-destructive testing – Qualification and approval of personnel – Aerospace* and of the Regulators; the Australian Defence Force (ADF) and the Civil Aviation Safety Authority (CASA); for the approval of procedures and the performance of NDT on aircraft and aircraft components.

### Pre-requisite Unit

MEA153	Communicate aviation technical and maintenance management knowledge
MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance
MEM13013B	Work safely with ionising radiation
MEM16010A	Write reports
MEM24002B	Perform penetrant testing
MEM24004B	Perform magnetic particle testing
MEM24006B	Perform eddy current testing
MEM24008B	Perform ultrasonic testing

MEM24010B Perform radiographic testing

MEM24012C Apply metallurgy principles

## Competency Field

Aviation maintenance

## Unit Sector

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---|
| 1. Assess requirements for NDT            | 1.1 The inspection area is assessed for testing and all possible failure sites identified using metallurgical analysis<br><br>1.2 Information relevant to test development is collected from available sources using accepted techniques<br><br>1.3 Information is analysed and interpreted<br><br>1.4 Test requirements are determined |
| 2. Evaluate NDT techniques and procedures | 2.1 Test methods, techniques and procedures for specific NDT tasks are specified<br><br>2.2 Applicable codes, standards, specifications and procedures are interpreted<br><br>2.3 Test procedures are developed in accordance with established techniques and metallurgical principles  |
| 3. Validate/confirm NDT tasks             | 3.1 General and specific test procedures are validated in accordance with established techniques<br><br>3.2 Inspection results are interpreted in accordance with existing codes, standards and specifications  |
| 4. Evaluate NDT test procedures           | 4.1 Procedures are evaluated for effectiveness<br><br>4.2 Evaluation results are documented and reported in accordance with standard enterprise procedures  |

- 4.3 Changes/amendments to NDT procedures are made and distributed in accordance with standard enterprise procedures

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

### Test methods, techniques and procedures refer to:

- Standard techniques and procedures associated with:
  - penetrant testing
  - magnetic particle testing
  - eddy current testing
  - ultrasonic testing
  - radiographic testing

### Codes, standards and specifications include:

- 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

## Unit Mapping Information

Release 2. Equivalent to MEA424 Evaluate aircraft non-destructive tests.

## Links

Companion Volume implementation guides are found in VETNet -

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