



Australian Government

MEM24011 Establish non-destructive tests

Release: 1

MEM24011 Establish non-destructive tests

Modification History

Release 1. Supersedes and is equivalent to MEM24011B Establish non-destructive tests.

Application

This unit of competency defines the skills and knowledge required to research, analyse, develop, approve and evaluate applicable non-destructive tests (NDT) on fabrications, structures and components across a wide range of industries to Level 3 (AS 3669

Non-destructive testing – Qualification and approval of personnel – Aerospace and AS ISO 9712 Non-destructive testing — Qualification and certification of NDT personnel) or equivalent.

Tests are validated and evaluated on critical component or structural zones and actual and potential defects are considered, together with ongoing abnormalities in fabrications, components, structures from a wide range of applications by the selection of relevant testing method.

Materials and chemicals which are subject to codes and regulations - for example, chemicals, explosives, solvents, dangerous materials, acids, or noxious waste products - are subject to safe work habits and must be stored and used in accordance with safe work practices.

This unit should not be selected when unit MEM05025 Perform welding/fabrication inspection has already been selected.

Where interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurements are required unit MEM12023 Perform engineering measurements should also be selected.

No licensing or legislative requirements apply to this unit at the time of publication.

Certification against Australian Standards may be achieved where assessment in this unit of competency is carried out in conjunction with an examining authority as described in AS ISO 9712 Non-destructive testing — Qualification and certification of NDT personnel.

Band: B

Unit Weight: 12

Pre-requisite Unit

MEM11011 Undertake manual handling

MEM13018 Work safely with ionizing radiation

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

MEM16010 Write reports

MEM18001 Use hand tools

MEM24002 Perform penetrant testing

MEM24004 Perform magnetic particle testing

MEM24006 Perform eddy current testing

MEM24008 Perform ultrasonic testing

MEM24010 Perform radiographic testing

MEM24012 Apply metallurgical principles

Competency Field

Non-destructive testing

Unit Sector

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications
2. Assess requirements for non-destructive test	2.1 Assess inspection area for testing and identify all possible failure sites utilising metallurgical analysis 2.2 Collect relevant information for test development from available sources using accepted techniques 2.3 Analyse and interpret information 2.4 Determine test requirements
3. Establish non-destructive test techniques and procedures	3.1 Designate test methods, techniques and procedures to be used for specific NDT work 3.2 Interpret codes, standards, specifications and procedures 3.3 Develop test procedures in accordance with established techniques and metallurgical principles
4. Validate and approve and confirm non-destructive test	4.1 Validate general and specific test procedures in accordance with established techniques

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
procedures	4.2 Interpret inspection results and evaluate in terms of existing codes, standards and specifications 4.3 Approve procedures in accordance with workplace procedures and relevant codes and standards 4.4 Document procedures and distribute in accordance with workplace requirements and relevant codes and standards
5. Evaluate non-destructive test procedures	5.1 Evaluate procedures for effectiveness 5.2 Document evaluation results and report according to workplace requirements 5.3 Make changes to non-destructive test procedures and distribute based on outcomes of evaluation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

Range of Conditions

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM24011B Establish non-destructive tests.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>