



**Australian Government**

# **Assessment Requirements for MEM24001 Perform basic penetrant testing**

**Release: 1**

# Assessment Requirements for MEM24001 Perform basic penetrant testing

## Modification History

Release 1. Supersedes and is equivalent to MEM24001B Perform basic penetrant testing.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, standards, charts, lists and other reference documentation for performing basic penetrant testing
- preparing the area for testing and identifying discontinuities including observed changes in material homogeneity in accordance with procedures
- applying test media and carrying out penetrant testing on at least two occasions using techniques appropriate for material/s to be tested, checking and confirming basic indicators and identifying all defects in accordance with procedures
- reporting test results in accordance with procedures and customer service requirements on at least two occasions.

*Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.*

## Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- cleaning and preparation processes and procedures and work health and safety (WHS) requirements in relation to the preparation process and consequences of incorrect preparation
- precleaning methods and their areas of use including solvents, vapour degrease, etching, detergents, paint removers and mechanical methods
- basic concepts and principles of non-destructive testing (NDT) including general terms, purpose of NDT and areas of application
- scope and basic description of test
- general properties of penetrants including penetrability, removability and visibility
- emulsifier and developer types
- use of standard test panels
- established inspection procedures and techniques
- types of discontinuities and their consequences

- procedure for carrying out penetrant testing including:
  - penetrant application and dwell times
  - penetrant removal
  - developer application
  - dry powder and development time
  - factors affecting indications
  - non-relevant indications
  - post-cleaning methods and their areas of use
- basic maintenance and storage procedures for testing equipment
- WHS requirements including storage requirements
- definition of a defect and common basic defects
- methods and/or procedures for reporting test results.

## Assessment Conditions

- Assessors must:
  - have vocational competency in performing basic penetrant testing at least to the level being assessed with relevant industry knowledge and experience
  - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

## Links

Companion Volume implementation guides are found in VETNet -

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