<table>
<thead>
<tr>
<th>Band – Specialisation band A</th>
<th>Field – Non-destructive Testing Non-destructive Testing</th>
<th>Unit Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-requisite units - Path 1</td>
<td>18.1A Use hand tools</td>
<td>2</td>
</tr>
</tbody>
</table>

### Element 24.1A.1 Prepare inspection areas for basic penetrant testing Element

#### Criteria 24.1A.1.1
Inspection areas are cleaned and prepared for testing using appropriate procedures and materials
- **Assessor guide:** observe that -
- **Assessor guide:** confirm that –
  - Inspection areas are identified by established techniques
  - Inspection areas are correctly prepared using the appropriate cleaning materials

#### Criteria 24.1A.1.2
Preparation processes are carried out in accordance with the relevant procedures and OH&S requirements
- **Assessor guide:** observe that –
- **Assessor guide:** confirm that –
  - Preparation procedures are carried out correctly
  - Procedures and OH&S requirements can be explained in relation to the preparation process

#### Criteria 24.1A.1.3
Inspection areas are visually assessed and obvious discontinuities identified
- **Assessor guide:** observe that –
- **Assessor guide:** confirm that –
  - All obvious discontinuities have been identified from a visual inspection
  - Types of discontinuities are explained and their consequences outlined

### Element 24.1A.2 Perform basic penetrant testing

#### Criteria 24.1A.2.1
Nominated test is identified from standard operating procedures
- **Assessor guide:** observe that –
- **Assessor guide:** confirm that –
  - Procedures are interpreted correctly and all relevant information identified
  - The procedure for carrying out penetrant testing can be explained

#### Criteria 24.1A.2.2
Test equipment is prepared in accordance with standard operating procedures
- **Assessor guide:** observe that –
- **Assessor guide:** confirm that –
  - Test equipment is prepared correctly
  - The tools, equipment, techniques and system verification checks necessary to carry out the penetrant test are explained

#### Criteria 24.1A.2.3
Test media is selected and applied in accordance with workplace practices and specifications
- **Assessor guide:** observe that –
- **Assessor guide:** confirm that –
  - Test media is applied correctly
  - Test media is suitable for type of test and material
Manufacturing, Engineering and Related Services ITAB    Metal and Engineering Industry Competency Standards

Range statement
This unit describes the underpinning knowledge and skills required to apply basic penetrant testing techniques on fabrications, structures and components across a wide range of industries and restricted to basic visible dye and/or process penetrant line methods. The work can relate to scheduled and unscheduled maintenance activities, using general tools, specific penetrant testing equipment as specified in maintenance documentation, testing procedures or operators instructions. Actual and potential defects to be considered, together with ongoing abnormalities in fabrications, components and structures. Penetrant testing is performed on critical component or structural zones. All testing must be completed with particular attention to personal safety and OH&S regulations. 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 ISO 9712. Materials and chemicals, which are subject to codes and regulations, for example, chemicals, explosives, solvents, dangerous materials, acids, or noxious waste products safe work habits must be stored and used in accordance with safe work practices. This unit should not be selected when Unit 24.2A Perform penetrant testing or Unit 15.4A Perform inspection basic has already been selected. Where power tools are required, Unit 18.2A Use power tools/hand held operations should also be selected.

Evidence guide

Assessment context
This unit may be assessed on the job, off the job or through a combination of both on and off the job. An individual working alone or as part of a team would demonstrate the competencies covered in this unit. The assessment environment should not disadvantage the candidate.

Assessment conditions
The candidate will be provided with:-
· all tools, equipment, materials and documentation required.

The candidate will be permitted access to the following documents: -
· any relevant workplace procedures;
· any relevant product and manufacturing specifications;
· any relevant codes, standards, manuals and reference materials.

The candidate will be required to:
· orally, or by other methods of communication, answer questions put by the assessor about processes, events or tasks being undertaken;
· identify colleagues who can be approached for the collection of competency evidence, where appropriate:
· present evidence of any off-job training related to this unit
· perform the tasks within the time frames established between the candidates supervisor/instructor and the assessor, prior to the assessment;

Assessors must be satisfied that the candidate can competently and consistently perform all elements of this unit as specified by the criteria, including required knowledge. Activities should closely simulate a workplace environment and conditions due to the critical nature of this work.
Critical aspects
The candidate should demonstrate sufficient underpinning knowledge of:
- OH&S requirements
- metallurgy associated with the level of application in this unit
This unit could be assessed in conjunction with other units addressing the safety, quality, communication, materials handling, recording and reporting associated with non-destructive testing in accordance with relevant standards and procedures, or other units requiring the exercise of skills and knowledge covered in this unit. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Special notes
During assessment the individual will:
- demonstrate safe working practices at all times;
- communicate information about processes, events or tasks being undertaken to ensure a safe and efficient working environment;
- take responsibility for the quality of their own work;
- plan tasks in all situations and review task requirements as appropriate;
- perform all tasks to specifications and use accepted NDT techniques, practices, processes and workplace procedures;
- tasks will be completed within reasonable time frames relating to typical workplace activities.