

1. Title	Analysis of non-destructive test (NDT) – Liquid penetrant Testing
2. Code	EMCUMA207A
3. Range	Use liquid penetrant, at servicing centres or locations with operating equipment, to inspect equipment or materials for surface cracks and make a simple analysis.
4. Level	2
5. Credits	3
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Techniques and principles of inspecting mechanical equipment for cracks</p> <ul style="list-style-type: none"> <li>◆ Understand the advantages and limitations of liquid penetrant testing, especially in reference to those of magnetic particle inspection</li> <li>◆ Understand that liquid penetrant testing is applicable to various types of metals, and some plastic and ceramic materials</li> <li>◆ Know about the procedural adjustments to be made for inspecting different sizes of surface cracks</li> <li>◆ Understand that the tools (such as black light lamp) and working procedures used for coloured penetrant and fluorescent penetrant are different</li> <li>◆ Understand the chemical hazards caused by penetrant and developers, and relevant concerns for use</li> </ul> <p>6.2 Methods and procedures of analyzing and identifying cracks on metal equipment</p> <ul style="list-style-type: none"> <li>◆ Capable to use liquid penetrant and developers effectively; make a simple analysis of the surface cracks of equipment or materials</li> <li>◆ Capable to identify surface cracks, surface defects and various types of residues left on the surface</li> <li>◆ Capable to mark the position with cracks effectively</li> <li>◆ Capable to keep record of inspection and analysis effectively</li> </ul> <p>6.3 Professionalism in using penetrant and developers</p> <ul style="list-style-type: none"> <li>◆ Have adequate hands-on practice in liquid penetration inspection according to international standards or in-house guidelines; record and analyze detected surface cracks according to requirements</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <p>(i) Capable to use liquid penetration and developer inspection method safely and correctly; identify equipment or materials for surface cracks and make a simple analysis.</p>
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses the competency of EMCUMA102A “Analysis of non-destructive test (NDT) – Liquid penetrant Testing”.