

**Specification of Competency Standards**  
**for the Testing, Inspection and Certification Industry**  
**Unit of Competency**

Functional Area - Testing Operations

Title	Perform advanced non-destructive tests on welds
Code	105993L4
Range	This unit of competency (UoC) covers the abilities to carry out advanced non-destructive tests (NDT) on welds including ultrasonic test and/or radiographic test by applying appropriate NDT techniques and equipment, and analyse test data to examine the conditions of welds.
Level	4
Credit	8 (For Reference Only)
Competency	<p>Performance Requirements</p> <ol style="list-style-type: none"> <li>1. Possess knowledge of advanced non-destructive tests (NDT) applicable to welds <ul style="list-style-type: none"> <li>• Employ the principles and concepts of advanced non-destructive tests and identify test methods used for examining welds, e.g.: <ul style="list-style-type: none"> <li>○ ultrasonic test,</li> <li>○ radiographic test.</li> </ul> </li> <li>• Define limitations of application of test methods.</li> <li>• Translate NDT codes, standards, specifications and procedures into NDT instructions adapted to actual working conditions.</li> <li>• Explain the principles and operation of equipment used for advanced non-destructive tests on welds.</li> <li>• Specify the calibration requirement of equipment.</li> </ul> </li> <li>2. Perform advanced non-destructive tests on welds <ul style="list-style-type: none"> <li>• Prepare NDT instructions.</li> <li>• Apply appropriate NDT techniques and testing equipment for advanced non-destructive tests on welds.</li> <li>• Set up the testing equipment and verify equipment settings.</li> <li>• Carry out ultrasonic test and/or radiographic test on welds according to test methods and NDT instructions.</li> <li>• Carry out required calibration checks on testing equipment and conduct validation checks on test data.</li> <li>• Analyse test data according to applicable codes, standards, specifications or procedures to examine the conditions of welds.</li> </ul> </li> <li>3. Exhibit professionalism <ul style="list-style-type: none"> <li>• Ensure integrity and confidentiality of test data by observing the relevant code of conduct.</li> <li>• Ensure safe work practices and use appropriate personal protective equipment at testing sites.</li> </ul> </li> </ol>
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> <li>• carry out advanced non-destructive tests on welds independently and safely by applying appropriate NDT techniques and testing equipment according to the requirements of test methods and test specifications,</li> <li>• analyse test data to examine the condition of welds by verifying equipment calibration status and checking the validity of test data within the acceptable range specified in test methods.</li> </ul>
Remark	Practitioners should possess good near-vision acuity (e.g. reading a minimum of Times Roman N4.5 or equivalent letters at not less than 30 cm with one or both eyes) and colour vision.