

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

Functional Area - Testing Operations

Title	Select test methods and measuring instruments (physical and mechanical testing)
Code	105865L6
Range	This unit of competency (UoC) covers the abilities to select suitable test methods and measuring instruments with justification by critically evaluating test request and relevant test standards for carrying out physical and mechanical testing activities in laboratories.
Level	6
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of test methods and measuring instruments for physical and mechanical testing</p> <ul style="list-style-type: none"> • Apply a broad range of test methods and test standards available for physical and mechanical testing. • Interpret the requirements of measuring instruments in relevant test standard. • Formulate criteria for selection of measuring instruments in terms of accuracy, resolution, tolerance and measurement uncertainty. • Explain the principles, operation and typical applications of measuring instruments. • Consolidate the knowledge and skills required to operate the instruments safely and reliably in the laboratory. • Differentiate conformity of instruments from non-conformity within a narrow range of measured values. <p>2. Select test methods and measuring instruments for physical and mechanical testing</p> <ul style="list-style-type: none"> • Evaluate customer's test request critically and determine sample characteristics and factors to justify the selection of test method and measuring instrument. • Select the appropriate test method in accordance with relevant test standard and test request from the customer. • Select the most suitable physical / mechanical measuring instrument or system in accordance with the test method and/or test standard. • Set up the physical / mechanical measuring instrument and optimise its performance by adjusting appropriate scale and measurement mode. • Evaluate the performance verification and stability checks of the measuring instrument and take appropriate actions if any signal drift is identified. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Maintain efficient communication with customers. • Ensure appropriate measures are implemented to minimise the health and safety risks associated with measuring instruments and test methods.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • select and justify appropriate test method by critically evaluating the test request from the customer and interpreting relevant test standard, • select appropriate physical / mechanical measuring instrument for a particular test by evaluating the requirements of relevant test method/standard and sample characteristics, • evaluate the performance and stability of the measuring instrument to ensure it is ready and safe for use in physical and mechanical testing activities.
Remark	