

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

Functional Area - Testing Operations

Title	Perform physical and mechanical tests on building components
Code	105840L3
Range	This unit of competency (UoC) covers the abilities to carry out physical and mechanical tests on building components and record accurate test data in testing laboratories.
Level	3
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of physical and mechanical tests applicable to building components</p> <ul style="list-style-type: none"> <li>• Describe the principles of test methods for determining physical and mechanical properties of building components, e.g. wooden doors, aluminium windows, door closer, door locks, metal gates, skylight frame.</li> <li>• Identify the specification requirements of testing building components.</li> <li>• Describe the principles and operation of equipment used for physical and mechanical tests on building components.</li> <li>• Specify the calibration requirement of equipment.</li> </ul> <p>2. Perform physical and mechanical tests on building components</p> <ul style="list-style-type: none"> <li>• Apply appropriate test methods/standards, testing equipment and test/environmental conditions for physical and mechanical tests on selected building component.</li> <li>• Carry out physical and mechanical tests on selected building component specimen according to test methods/standards, e.g.: <ul style="list-style-type: none"> <li>○ door – resistance to closing against an obstruction, resistance to impact, resistance to torsion,</li> <li>○ door closer – mechanical performance and durability test of overhead door closer,</li> <li>○ gateset – operation test, slamming closed test, heavy body impact test, endurance performance test,</li> <li>○ window and curtain wall – wind resistance test, water penetration test,</li> <li>○ cooking bench and sink unit.</li> </ul> </li> <li>• Carry out required calibration checks on testing equipment.</li> <li>• Record test data for reporting.</li> </ul> <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> <li>• Ensure integrity and confidentiality of test data by observing the code of conduct of the laboratory.</li> <li>• Follow established safe work practices and use appropriate personal protective equipment.</li> </ul>
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> <li>• carry out physical and mechanical tests on selected building component specimen by applying appropriate testing equipment and test conditions according to the requirements of test methods/standards and test specifications,</li> <li>• record accurate test data by verifying equipment calibration status.</li> </ul>
Remark	