

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 mortar and grout
Code	105839L3
Range	This unit of competency (UoC) covers the abilities to carry out physical and mechanical tests on mortar, repair mortar and grout materials, 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 mortar, repair mortar and grout</p> <ul style="list-style-type: none"> • Describe the physical and mechanical properties of mortar and grout, e.g. mortar, repair mortar, non-shrink grout and polymer modified materials. • Describe the principles and concepts underpinning test methods for mortar, repair mortar and grout. • Identify the specification requirements of testing mortar, repair mortar and grout. • Identify the testing and environmental conditions under specified requirements of testing mortar, repair mortar and grout, e.g. laboratory temperature and relative humidity. • Describe the principles and operation of equipment used for physical and mechanical tests on mortar, repair mortar and grout. • Specify the calibration requirement of equipment. <p>2. Perform physical and mechanical tests on mortar, repair mortar and grout</p> <ul style="list-style-type: none"> • Apply appropriate test methods/standards and testing equipment for physical and mechanical tests on mortar, repair mortar and grout. • Carry out physical and mechanical tests on selected mortar, repair mortar and grout specimen according to test methods/standards, e.g.: <ul style="list-style-type: none"> ○ expansion and bleeding, changes in height, flow, setting time, compressive strength of grout, ○ density, compressive strength, flexural strength, adhesive strength, consistence, air content of mortar, ○ compressive strength, flexural strength, tensile strength, bond strength, air permeability (modified Figg test), Coutinho Ring test (shrinkage cracking), long term shrinkage, modulus of elasticity test of repair mortar. • Carry out required calibration checks on testing equipment. • Record test data for reporting. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Ensure integrity and confidentiality of test data by observing the code of conduct of the laboratory. • Follow established safe work practices and use personal protective equipment to ensure personal safety and that of other laboratory personnel.
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • carry out physical and mechanical tests on selected mortar, repair mortar and grout specimen by applying appropriate testing equipment according to the requirements of test methods/standards and test specifications, • record accurate test data by verifying equipment calibration status.
Remark	