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

Functional Area - Testing Operations

Title	Perform electric shock and energy hazard tests
Code	105820L4
Range	This unit of competency (UoC) covers the abilities to carry out electrical and energy tests on electrical and electronic products independently by applying the knowledge of electric shock and energy hazard and record accurate test data in testing laboratories.
Level	4
Credit	6 （For Reference Only）
Competency	Performance Requirements 1. Possess knowledge of electric shock and energy hazard • Employ the principles of electric shock and energy hazard in relation to: o hazardous live, o accessible parts, o dielectric strength, o resistance of protective earthing conductors by voltage drop, o cross-sectional area of conductors of terminals/supply cord, protective earthing conductors and protective bonding conductors. • Identify the potential electric shock and energy hazards of selected electrical and electronic products, e.g.: o audio, video and similar electronic apparatus, o household and similar electrical appliances, o information technology equipment, o luminaires. • Employ the principles of evaluating electric shock and energy hazards of selected electrical and electronic products. • Describe the effects of ingress of object, dust and moisture, abnormal operation and endurance tests on potential electric shock. • Specify the requirements of electric shock and energy hazard of selected electrical and electronic products in relevant categories of standards, e.g.: o basic/generic standards, product family standards, o international, national and industrial standards such as IEC, EN, GB, BS, UL, MS, SS, AS/NZS. • Specify the regulatory requirements of electric shock and energy hazard of electrical and electronic products in selected countries or regions, e.g. China, EU. • Describe the principles and operation of instruments used for electric shock and energy hazard tests. • Apply the concepts of uncertainty and instrument calibration to the electric shock and energy hazard tests. 2. Perform electric shock and energy hazard tests • Select appropriate test methods/standards, test conditions, and simulation of normal and/or fault operations for electric shock and energy hazard tests. • Apply appropriate testing instruments and test site for the tests. • Apply appropriate conditions to the sample under test, e.g.: o force applied and test probe/pin used for accessibility of hazardous live, o test voltages and conditioning for electric strength based on peak working voltages, o test current and period of resistance of earthing capacitor, o test voltage of impulse test, o operation modes of samples, normal and/or fault conditions.

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	• Carry out electric shock and energy hazard tests on the sample independently according to the test methods/standards. • Carry out required validation checks to confirm the system and instrumental requirements are met. • Record accurate test data and conclude test results to confirm the compliance of the test sample. 3. Exhibit professionalism • Ensure all tests are carried out in compliance with good industry practices and relevant categories of standards. • Ensure integrity and confidentiality of laboratory data and information by observing the code of conduct as required by the standards, regulations and the organisation.
Assessment Criteria	The integrated outcome requirements of this UoC are the abilities to: • carry out the electric shock and energy hazard test on selected electrical and electronic product independently by applying appropriate instrument and testing conditions according to the requirements of relevant test methods/standards, • record accurate and reliable test data by data validation and verifying instrument calibration status, • conclude test results to confirm the compliance of electric shock and energy hazard of the product against the relevant specifications of test methods/standards.
Remark	