

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

Functional Area - Testing Operations

Title	Perform flammability tests (electrical and electronic products)
Code	105826L4
Range	This unit of competency (UoC) covers the abilities to carry out flammability tests on electrical and electronic products independently by applying the knowledge of flammability behaviour of materials used in the products, and record accurate test data and observations in testing laboratories.
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of flammability behaviour of materials used in electrical and electronic products</p> <ul style="list-style-type: none"> • Employ the principles of flammability category and describe the flammability behaviour of different materials used in selected electrical and electronic products, e.g.: <ul style="list-style-type: none"> ○ audio, video and similar electronic apparatus, ○ household and similar electrical appliances, ○ information technology equipment, ○ luminaires. • Employ the principles and methods of flammability tests, e.g.: <ul style="list-style-type: none"> ○ sequence of performing flammability tests, ○ needle flame test, ○ vertical and horizontal flame test, ○ hot wire test, ○ glow wire test, ○ high current arcing test. • Specify the requirements of flammability behaviour of selected electrical and electronic products in relevant categories of standards, e.g.: <ul style="list-style-type: none"> ○ basic/generic standards, product family standards, ○ international, national and industrial standards such as IEC, EN, GB, BS, UL, MS, SS, AS/NZS. • Specify the regulatory requirements of flammability behaviour of electrical and electronic products in selected countries or regions, e.g. China, EU. • Describe the principles and operation of instruments used for flammability tests. • Apply the concepts of uncertainty and instrument calibration to the flammability tests. <p>2. Perform flammability tests</p> <ul style="list-style-type: none"> • Select appropriate test methods/standards, test conditions and test site for flammability tests. • Apply appropriate testing instrument, test assembly and ignition source for the flammability tests. • Carry out the flammability test on the test sample independently in appropriate testing environment/chamber according to the test methods/standards. • Carry out required validation checks to confirm the system and instrumental requirements (e.g. temperature of the glow wire) are met. • Record accurate test data and observations on the surrounding environment and/or materials and conclude test results to confirm the compliance of the test sample. <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Ensure all measurements are carried out in compliance with good industry practices and relevant categories of standards.

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	<ul style="list-style-type: none">• Ensure testing activities comply with corporate environmental policies by taking appropriate measures to minimise the pollution to the environment.• 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	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none">• carry out the flammability test on selected electrical and electronic product independently by applying appropriate testing instrument and test conditions according to the requirements of relevant test methods/standards,• record accurate and reliable test data and observations by data validation and verifying instrument calibration status,• conclude test results to confirm the compliance of flammability behaviour of the product against the relevant specifications of test methods/standards.
Remark	