

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

Functional Area - Testing Operations

Title	Perform flammability tests (textiles and garments)
Code	105861L4
Range	This unit of competency (UoC) covers the abilities to carry out flammability tests on textiles and garments independently by applying the knowledge of flammability behaviour of materials used in the products, and record accurate test data and observations to judge the compliance of the products in testing laboratories.
Level	4
Credit	4 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Possess knowledge of flammability behaviour of materials used in textiles and garments</p> <ul style="list-style-type: none"> • Define the flammability category and describe the flammability behaviour of different materials used in selected products, e.g.: <ul style="list-style-type: none"> ○ textiles and garments, ○ tents, sleeping bags, ○ carpets. • Employ the principles and methods of flammability tests, e.g. vertical test, horizontal test, ignitability test. • Specify the requirements of flammability behaviour of selected textiles and garments in relevant categories of standards, e.g.: <ul style="list-style-type: none"> ○ international, national and industrial standards such as IEC, EN, AATCC, ASTM, ISO, EN, DIN, AS/NZS, CAN/CGSB, JIS, BS, GB, US CPSC, ○ manufacturers' and/or clients' specifications. • Specify regulatory requirements of flammability tests for selected textile and garment products, e.g.: <ul style="list-style-type: none"> ○ textiles and garments: US CPSC 16 CFR 1610, US CPSC 16 CFR 1615 & 1616, UK Nightwear (Safety) regulation, ○ carpets: US CPSC 16 CFR 1630 & 1631. • Describe the sampling procedures for particular flammability tests. • Specify the requirements of sample preparation before tests, e.g. washing. • Explain the principles and operation of equipment used for flammability tests. • Apply the concepts of uncertainty and equipment calibration to the flammability tests. <p>2. Perform flammability tests</p> <ul style="list-style-type: none"> • Select appropriate test methods/standards, environmental conditions and test site for flammability tests. • Apply appropriate testing equipment, test assembly and ignition source for the flammability tests. • Prepare appropriate textile and garment test sample for particular flammability test. • 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 equipment requirements are met. • Classify burn code and sample flammability rating for textile and garment sample under test. • Record accurate test data and observations on the surrounding environment and/or materials and judge test results to confirm the compliance of the test sample. <p>3. Exhibit professionalism</p>

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	<ul style="list-style-type: none">• Ensure all tests are carried out in compliance with good laboratory practices under relevant categories of standards.• 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 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 textile and garment product independently by applying appropriate testing equipment and environmental conditions according to the requirements of test methods/standards,• record accurate and reliable test data and observations by data validation and verifying equipment calibration status,• judge test results to confirm the compliance of flammability behaviour of the textile and garment product against the relevant specifications of test methods/standards.
Remark	