



Australian Government

PMBTECH403 Test fibre-composites materials and laminates

Release: 1

PMBTECH403 Test fibre-composites materials and laminates

Modification History

Release 1. Supersedes and is equivalent to PMBTECH403B Test fibre-composites materials and laminates

Application

This unit of competency covers the skills and knowledge required to test fibre reinforced plastics materials and laminates. It applies to testing of raw materials and products. Tests are typically done to check conformance with design and quality specifications or to compare specific characteristics of materials/products.

This unit of competency applies to technicians or those in similar roles who are required to determine test specifications, prepare samples, perform tests and make recommendations based on the results.

This unit of competency applies to a technician applying specialised theoretical and technical knowledge and well developed skills in situations that require autonomy, discretion and judgement. The person may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Technical

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Determine test requirements

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| 1.1 | Identify properties to be measured according to specification |
| 1.2 | Select appropriate test methods according to specifications |

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| | | 1.3 | Select appropriate testing equipment according to standards and specifications |
| 2 | Perform raw material tests | 2.1 | Prepare samples according to specification |
| | | 2.2 | Perform tests in accordance with job specifications |
| | | 2.3 | Record test results according to standard procedures |
| | | 2.4 | Interpret test results and compare with manufacturer material data sheets |
| 3 | Perform moulded product tests | 3.1 | Prepare samples according to specification |
| | | 3.2 | Perform tests in accordance with job specifications |
| | | 3.3 | Record test results according to standard procedures |
| | | 3.4 | Interpret test result and compare against quality specification |
| 4 | Record and report test results | 4.1 | Document tests to enterprise requirements |
| | | 4.2 | Compare results against standards |
| | | 4.3 | Make written recommendations based on test results |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- test procedures
- technical specifications
- technical drawings
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment Tools and equipment include:

- testing equipment, including one or more of:
 - gel timer
 - flow meter
 - tensile tester

- hardness tester
- mold flow indexer
- flammability/smoke tester
- flexural tester.

Additional tools and equipment will be selected as required from:

- equipment specified by AS/NZ standards (where applicable)
- materials handling equipment
- relevant personal protective equipment (PPE).

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- hazardous products and materials
- vapours or other atmospheric hazards
- interaction of polymers, additives and other materials
- other hazards that might arise.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>