



Australian Government

Department of Education, Employment and Workplace Relations

LMTTN2006B Identify purpose and performance outcomes of technical textile product

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge to identify the purpose and desired performance characteristics of a technical textile or non-woven product.

Application of the Unit

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The unit applies to the identification of the purpose and performance characteristics of textiles that have been manufactured for special technical purposes. A technical textile may be produced by a technical finish on a normal yarn or fabric or composed of a specially made technical yarn or fabric.

The unit applies to employees who are required to have a basic understanding of the product being manufactured such as team leaders and senior operators with responsibility for explaining the enterprise's products to visitors and other employees. The unit does not cover knowledge of the technical textile requiring special scientific or engineering study.

A technical textile is generally not a clothing, carpet or furnishing product unless a specific technical feature beyond what is normally found in clothing, carpet or furnishing has been added. An example would be special fire retardant clothing.

Applications of technical textiles may be for medical, hygiene, sporting, transportation, construction, agricultural and other purposes. The technical textile may be used as a stand-alone product or incorporated into another product. The technical textile application may occur as a result of new materials, new processes and new applications that result in the textile having the desired technical performance characteristic.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

The application of this unit is according to OHS practices of the enterprise and workplace practices, which may include:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control, and recycling

This unit requires the application of skills associated with problem solving to identify and determine purpose and performance features of technical textiles. Learning and self management skills are required to expand and apply knowledge of technical textiles and communication skills are used to explain and describe features and processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites LMTTN2003B

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify <i>purpose</i> of technical textile	1.1 Purpose of technical textile is identified. 1.2 Industry and commercial applications of technical textile are identified.
2 Describe performance features of technical textile	2.1 Performance features of technical textile are described. 2.2 Special conditions of use of technical textile are described. 2.3 Performance or quality standards relating to technical textile are identified.
3 Describe <i>process</i> used to generate technical textile performance features	3.1 Technical textile product manufacturing <i>process</i> is briefly explained. 3.2 Impact of quality on production processes is identified. 3.3 Testing procedures used to assess quality or performance of technical textile product are identified.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Demonstrates knowledge of:

- purpose, manufacturing process and performance characteristics of technical textiles
- OHS practices, including hazard identification and control measures
- quality practices
- workplace practices
- recording and reporting practices

Demonstrates skills to:

- read, interpret and follow information on work specifications, standard operating procedures and work instructions, and other reference material
- communicate within the workplace
- identify operation sequence
- clarify and check task-related information
- carry out work according to OHS practices

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects of evidence	Demonstrates skills and knowledge to: <ul style="list-style-type: none">• identify primary purpose of technical textile• identify application area of technical textile• identify intended performance of the technical textile• identify manufacturing process for the technical textile
Consistency in performance	Consistently applies skills and knowledge when: <ul style="list-style-type: none">• organising work• completing tasks according to instructions• working systematically with attention to detail• identifying improvements and avoiding damage• using workplace practices• using OHS practices• recording and reporting accidents and incidents• assessing operational readiness of equipment• recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions
Resource implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Context for assessment	Assessment may occur on the job or in an appropriately simulated environment.
Interdependent assessment	This unit may be assessed independently or in combination with other relevant units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Legislative/regulatory requirements All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.

Purpose includes

- the technical effect desired to be achieved by the textile product as well as the application industry or sector that uses the product. Technical effects may include:
 - abrasion resistance
 - low or high permeability to gases and liquids
 - flame retardant
 - low flammability
 - resistance to chemicals
 - protection against sunlight caused weathering
 - oxidation resistance
 - fire resistance or protection
 - water-repellent finish
 - anti-static finish
 - anti-microbial and anti-fungal property
 - non-shrink properties
 - electrical conductivity or insulation
 - phase change as in fibres that can alter according to external conditions such as temperature
 - conversion of light to heat
 - bio compatibility
- Application industries and sectors may include:
 - transport
 - industrial products and components
 - medical and hygiene products
 - domestic equipment and furnishings, eg fibrefill and insulation applications
 - clothing components, eg threads and interlinings
 - agriculture, horticulture and fishing
 - construction and engineering
 - packaging and containment
 - sport and leisure equipment and performance fabric and clothing
 - geo-textiles
 - protective and safety clothing and textiles

Performance means	<ul style="list-style-type: none">• monofilament fibres for computer technologies• the type and extent of the technical effect of the textile product being manufactured and the conditions under which the performance of the textile product meets specifications. Examples would be:<ul style="list-style-type: none">• an air filter fabric that removes contaminants of a certain size subject to regular cleaning• an insulation material that is effective within a set temperature range• impact resistant clothing that is effective against set types of projectiles
Process	<p>The technical textile manufacturing process may be based on using special technical fibres or yarns, or a finishing process to a woven, knitted or non-woven textile. Processes used may include:</p> <ul style="list-style-type: none">• plaiting• knotting• weaving• warp and weft knitting• stitchbonding• braiding• dry laid and spun bond non-woven manufacturing• calendering• raising• cropping• compressive shrinking• heat setting• coating• laminating• fusing

Unit Sector(s)

Sector Technical Textiles and Non-wovens