



Australian Government

Department of Education, Employment and Workplace Relations

LMTTX4001A Interpret and apply textile calculations and specifications

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge to interpret and apply calculations and specifications within a textile manufacturing environment.

Application of the Unit

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The unit applies to the interpretation and application of calculations and specifications within a textile manufacturing environment to ensure specified job requirements and standards of quality and design are met.

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 communication skills associated with interpreting specifications, understanding and applying terminology used in the textile industry, performing calculations and applying formulas, and maintaining records. Planning and organising and problem solving skills are required to select and apply calculations appropriate to production requirements and identify deviations or inconsistencies. Learning skills are applied to clarify and verify specifications.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

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 Obtain and interpret textile specifications	1.1 Features of systems used to document specifications and techniques for converting specifications across systems, are identified 1.2 <i>Specifications applying to yarn analysis</i> are interpreted 1.3 <i>Specifications applying to fabric analysis</i> are interpreted 1.4 <i>Terminology</i> used in the textile production industry relating to raw materials, specifications and processing are correctly interpreted, applied and used 1.5 Specifications appropriate to the textile operation are obtained and interpreted 1.6 Work requirements are determined from specifications 1.7 Clarification of specifications is undertaken as required using appropriate information <i>resources and search techniques</i>
2 Perform textile calculations	2.1 Calculation requirements for specific production processes are determined 2.2 <i>Formulas</i> used to convert specifications to desired format are identified and applied 2.3 Formulas used for calculating requirements for cotton production are identified and applied 2.4 Formulas used for calculating requirements for wool production are identified and applied 2.5 Formulas and graphs used for calculating requirements for production of man-made fibres are identified and applied 2.6 Calculations are checked and verified as correct 2.7 Deviations from expected outcomes are examined and validated with <i>appropriate information resources</i>
3 Complete records	3.1 Calculation records are accurately documented to agreed standards 3.2 Documentation is prepared for testing or production processes

Required Skills and Knowledge

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

Demonstrates knowledge of:

- textile industry terminology
- systems and formula used in textile calculations
- weight length ratio
- international specification standards
- practical application of calculations
- quality practices
- workplace practices
- practices for recording and reporting
- production processes

Demonstrates skills to:

- identify specification information
- recognise, rectify and report deviations from specifications
- read, interpret and follow specification information, standard operating procedures and work instructions and other reference material
- maintain accurate records
- communicate within the workplace
- sequence operations
- 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: • identify specifications relevant to textile processes • interpret specifications accurately • convert specifications formats accurately as required • select and apply correct formulas • undertake textile calculations • construct and read graphs • record calculations and units accurately • apply OHS practices in work operations
Consistency in performance	Consistently applies skills and knowledge when: • organising work • completing tasks • working systematically with attention to accuracy • identifying improvements and avoiding damage • using workplace practices • using OHS practices • recording and reporting accidents and incidents • 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.
Specifications applying to yarn analysis may include	• mean variation • count or linear density • ply • dye weight • moisture or regain • winding speed
Specifications applying to fabric analysis may include	• mass or unit area • thread density • dimensional change
Terminology may include	• Australian standards • international standards • industry standards
Formulas may include	• calculation of percentages • calculation of fractions • conversion between systems • reading and constructing graphs
Resources and search techniques may include	• standard operating procedures, safety procedures, job lists, manufacturer manuals, specifications, textile production patterns and machine settings, Australian and International Standards, trade journals, quality system documentation customer requirements, workplace and site procedures and manuals, industry manuals, codes of practice, awards, legislation, plans, diagrams, log books • hard copy or electronic data • key personnel, supervisors, trainers, colleagues • using index, table of contents, numbering and classification systems, etc. • computer database search or look-up, questioning, cross-referencing • basic techniques to identify relevant information, including skimming and scanning, identifying key words and ideas
Appropriate	• supervisors

information resources • managers
may include • trainers
• machine manuals

OHS practices OHS practices include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may relate to:

- manual handling techniques
- standard operating procedures
- personal protective equipment
- safe materials handling
- taking of rest breaks
- ergonomic arrangement of workplaces
- following marked walkways
- safe storage of equipment
- housekeeping
- reporting accidents and incidents
- environmental practices

Unit Sector(s)

Sector Textile Production