



Australian Government

MSTTX4001 Interpret and apply textile calculations and specifications

Release: 1

MSTTX4001 Interpret and apply textile calculations and specifications

Modification History

Release 1. Supersedes and is equivalent to LMTTX4001A Interpret and apply textile calculations and specifications

Application

This unit of competency covers the skills and knowledge required to interpret and apply calculations and specifications within a textile manufacturing environment.

The unit of competency applies to calculations and specifications 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.

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

Pre-requisite Unit

Nil

Competency Field

Textile production

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 job requirements

- 1.1 Follow standard operating procedures (SOPs)
- 1.2 Comply with work health and safety (WHS) requirements at all times
- 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs
- 1.4 Identify job requirements from specifications, drawings,

job sheets or work instructions

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|---|---|-----|--|
| 2 | Prepare to apply textile calculations and specifications | 2.1 | Identify systems to document specifications |
| | | 2.2 | Identify techniques for converting specifications across systems for textile production |
| | | 2.3 | Interpret specifications applying to yarn analysis and fabric analysis |
| | | 2.4 | Identify, interpret and apply terminology used in the textile production industry relating to raw materials, specifications and processing |
| | | 2.5 | Interpret specifications to determine work requirements for textile operations |
| | | 2.6 | Use appropriate information resources and search techniques to clarify specifications |
| | | | |
| 3 | Perform textile calculations | 3.1 | Determine what calculations are required for specific production processes |
| | | 3.2 | Identify and apply formulas used to convert specifications to desired format |
| | | 3.3 | Identify and apply formulas and graphs appropriate for specified textile to calculate requirements for production |
| | | 3.4 | Check and verify calculations |
| | | 3.5 | Examine and validate deviations from expected outcomes with advice from appropriate information resources |
| | | | |
| 4 | Complete records | 4.1 | Document calculation records to agreed standards |
| | | 4.2 | Prepare documentation for testing or production processes |

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.

Workplace procedures include one or more of the following:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- SOPs
- work instructions
- PPE
- 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
- WHS practices

Australian Standards include:

- the relevant industry or Australian Standards that are current at the time this unit is being undertaken

Specifications applying to yarn analysis include one or more of the following:

- mean variation
- count or linear density
- ply
- dye weight
- moisture or regain
- winding speed

Specifications applying to fabric analysis include one or more of the following:

- mass or unit area
- thread density
- dimensional change

Terminology includes one or

- Australian Standards

more of the following:

- international standards
- industry standards

Formulas include the following:

- calculation of percentages
- calculation of fractions
- conversion between systems
- reading and constructing graphs

Resources and search techniques include one or more of the following:

- SOPs
- 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 and colleagues
- using index, table of contents, and numbering and classification systems
- computer database search or look-up, questioning and cross-referencing
- basic techniques to identify relevant information, including skimming and scanning, and identifying key words and ideas

Specified textiles include one or more of the following:

- cotton
- wool
- man-made fibres

Appropriate information resources include one or more of the following:

- supervisors
- managers
- trainers
- machine manuals

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>

Assessment Requirements for MSTTX4001 Interpret and apply textile calculations and specifications

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria, and include:

- reading and following work instructions, standard operating procedures (SOPs), safe work practices
- applying relevant standards
- identifying and interpreting specifications relevant to yarn requirements and textile processes
- interpreting and applying terminology used in the textile production industry relating to raw materials, specifications and processing
- determining what calculations are required for specific production processes
- using correct formulas to convert specifications to desired format
- identifying and applying formulas and graphs appropriate for specified textile to calculate requirements for production on at least two (2)
- checking, verifying and recording calculations
- recognising, rectifying and reporting deviations from specifications
- examining and validating deviations from expected outcomes with advice from appropriate information resources
- documenting calculation records to agreed standards
- preparing documentation for testing or production processes.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- textile industry terminology
- systems and formula used in textile calculations
- weight length ratio
- international specification standards
- practical application of calculations
- quality practices
- production processes
- resources and research techniques

- workplace procedures
- recording and reporting practices.

Assessment Conditions

- Assessors must:
 - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
 - have vocational competency in interpreting and applying textile calculations and specifications, at least to the level being assessed, with relevant industry knowledge and experience.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.

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