



Australian Government

MSTTX3007 Prepare dyes for textile production

Release: 1

MSTTX3007 Prepare dyes for textile production

Modification History

Release 1. Supersedes and is equivalent to LMTTX3007B Prepare dyes for textile production

Application

This unit of competency covers the skills and knowledge required to prepare dyes for use in textile production.

The unit of competency applies to selecting and preparing dyes for dyeing textiles. Judgement may be required in planning and selecting appropriate processes or procedures for self and others.

Work may include liaison with specialist technicians from within the workplace and from external suppliers.

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

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| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| 2 | Prepare for dye preparation | 2.1 | Confirm specifications and/or sample of textile material or product with originator or client |
| | | 2.2 | Clarify end use and performance standards expected of finished product with appropriate personnel |
| | | 2.3 | Analyse sample to determine type and composition using appropriate techniques, as required |
| 3 | Perform preliminary selection and evaluation of dyes | 3.1 | Select potential dyes, chemicals and auxiliaries according to specifications and/or previous product dyeing references |
| | | 3.2 | Identify expected textile production or reproduction processes based on preliminary dye selection, and advise appropriate personnel |
| | | 3.3 | Determine preliminary dye selection for the sample of textile |
| | | 3.4 | Trial dye selections and specification or recipe using laboratory-based production facilities, and evaluate results against requirements of originator or client |
| | | 3.5 | Review dye selection or recipe for colour matching and re-test, as required |
| | | 3.6 | Seek approval of preliminary dye specification by originator or client before implementing limited production run |
| 4 | Test dyes and finalise specification or recipe | 4.1 | Select appropriate sampling and testing techniques to evaluate product during limited production run |
| | | 4.2 | Implement tests according to quality standards and workplace procedures |
| | | 4.3 | Analyse results and review and retest preliminary dye selection/recipe, as required, to ensure colour matching and specifications are achieved |

- 4.4 Check dye selection against original client specifications and requirements and workplace production requirements
- 4.5 Seek approval of colour specification by originator or client before implementing bulk production run and record process
- 4.6 Apply environmental requirements and procedures concerned with waste, pollution, storage and recycling of materials at all stages of the process

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

Textile materials or products include one or more of the following:

- fibres, including polyester, cotton, wool, viscose and rayon
- yarns, including ring spun, open-ended spun, air jet spun and friction spun
- fabrics
- finished products, including socks, sweaters, towels, sheets, blankets, carpets, rope and twine, mops and industrial textiles

Tests include one or more of the following:

- those associated with product or process development
- colour fastness
- shrinkage

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTTX3007B Prepare dyes for textile production

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 MSTTX3007 Prepare dyes for textile production

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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 textile characteristics
- establishing and confirming criteria for tests
- developing and planning tests and ensuring tests and sampling techniques are conducted against quality standards
- collating, analysing and interpreting tests to ensure colour matching and specifications are achieved
- applying dye formulas and specifications to ensure colour matching and specifications are achieved on at least two (2) occasions
- checking dye selection against original client specifications and requirements and workplace production requirements
- seeking approval of colour specification by originator or client before implementing bulk production run and recording process
- applying environmental requirements and procedures concerned with waste, pollution, storage and recycling of materials at all stages of the process.

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
- fibres, yarns and end products and their properties
- dyestuffs and classes
- chemistry of dyes and relationship with processing and fastness properties
- dye specification or recipe:
 - application properties
 - fastness properties
 - reproducibility
 - suitability for production
 - application methods

- environmental and safety factors
- dyeing processes and dyeing machinery
- relation between dyeing machinery and selection of dyestuffs/classes
- sampling and testing techniques:
 - use of laboratory equipment, pad mangles, rota dryers, mini-jets and pilot production plants
 - tests applicable to the dyeing of textiles
- relevant Australian and international testing Standards
- application of dyes in laboratory and production process
- quality standards and practices
- 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 preparing dyes for textile production, 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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