

Title	Manage dyehouse operations		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: describe the management of safety in the dyehouse; manage dye selection; describe and calculate the cost of dyeing; monitor colour fastness testing and shade matching; and ensure compliant disposal of chemical and dye effluent.
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Classification	Textiles Manufacture > Textile Dyeing and Finishing
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Available grade	Achieved
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Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to the:
Health and Safety at Work Act 2015.
Resource Management Act 1991.
- 2 Definition
Dyeing refers to all pre-treatments, dye cycle, and post-treatments carried out in the dyeing machine.
Workplace procedures refer to the procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Assessment information
All activities and evidence must be in accordance with workplace procedures.

Outcomes and performance criteria

Outcome 1

Describe the management of safety in the dyehouse.

Performance criteria

- 1.1 Accident causes and risk factors are described in terms of dyehouse activities.

Range contact with objects, over exertion and strain, machine accidents, falls, chemical, electrical, fire.

- 1.2 Safe use of dyestuffs is described.
- Range handling and weighing of dyes, function and use of protective clothing, function and use of general safety equipment, housekeeping, first aid.
- 1.3 Safe use of dyehouse chemicals is described.
- Range storage conditions, handling and storage of incompatible chemicals, handling, weighing and mixing of chemicals, identification and use of warning labels and signs, disposal of chemicals and chemical containers.
- 1.4 Dyehouse safe practice is described in terms of the requirements of the Health and Safety at Work Act 2015.

Outcome 2

Manage dye selection.

Performance criteria

- 2.1 Factors that influence dye selection are managed to attain required specification.
- Range may include but is not limited to – substrate, shade, metamerism, levelling, fastness, compatibility with other dyes, reproducibility, temperature, stability, pH stability, penetration, coverage, homogeneity, solubility, dispersion solubility, particle size, purity.
- 2.2 Dye selection factors that influence cost are managed to attain required specification.
- Range may include but is not limited to – cost of dye, cost of application, fastness properties, dyestuff strength.

Outcome 3

Describe and calculate the cost of dyeing.

Performance criteria

- 3.1 Dyeing costs are described in terms of expenses that contribute to direct and indirect costs.
- Range direct costs may include but are not limited to – operator wages, material costs, energy costs, water costs, machine depreciation, operating costs;
indirect costs may include but are not limited to – management and support staff costs, building operation and maintenance costs, financial and administrative costs.

3.2 Total cost of dying is calculated and contributing expenses are deducted.

Range contributing costs may include but is not limited to – direct wages cost, direct materials cost, energy and water costs, indirect costs.

Outcome 4

Monitor colour fastness testing is carried out.

Performance criteria

4.1 Colour fastness tests are carried out.

Range may include but is not limited to – fastness to washing, fastness to light, fastness to rubbing, fastness to perspiration, use of Blue Scale, use of standard Grey Scale, use of Grey Scale for assessing staining; evidence of two tests is required.

Outcome 5

Monitor shade matching.

Performance criteria

5.1 Shade matching process is followed.

Range sample taking, sample preparation, comparison with standard, additions.

5.2 Off-shade and un-level dyeings are investigated to determine and rectify cause.

Range two of the following causes – recipe, batch weight, chemical and dye type, chemical and dye calculations, chemical and dye weighing and dispensing, dyebath conditions, dyebath contaminants, raw materials.

Outcome 6

Ensure compliant disposal of chemical and dye effluent.

Performance criteria

6.1 Chemicals and dyes effluent are disposed of.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 May 2016	31 December 2025
Review	2	24 March 2022	N/A

Consent and Moderation Requirements (CMR) reference

0030

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.