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| Title | **Demonstrate knowledge of industrial textile fabrication materials for performance requirements** | | |
| Level | **4** | **Credits** | **8** |

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| Purpose | People credited with this unit standard are able to demonstrate knowledge of: fabric characteristics and construction; fabric finishes for industrial textile fabrication; fabric specifications; standard fabric tests; and material aesthetic properties. |

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| Classification | Industrial Textile Fabrication > Industrial Textile Fabrication Core Skills |

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| Available grade | Achieved |

**Guidance Information**

1. Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer’s information, company requirements, industry guidelines and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
2. Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the Health and Safety at Work Act 2015; and any subsequent amendments and replacements.

3 Definitions

*Company requirements* refers to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.

*Industry guidelines* refers to those practices and procedures commonly used as standard procedures to produce items of acceptable merchantable quality in the industrial textile fabrication industry such as related textbook descriptors.

*Manufacturer’s information* refers to technical information for a machine or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

**Outcomes and performance criteria**

**Outcome 1**

Demonstrate knowledge of fabric characteristics and construction.

**Performance criteria**

1.1 Fibre types are described for fabrication.

Range natural, spun viscose, synthetics – high density polyethylene, polyethylene, polyvinyl chloride, polyester, acrylic.

1.2 Yarn and thread construction are described.

Range single and multi-ply, continuous monofilament, continuous multi-filament, spun staple, core spun.

1.3 Fabric construction methods and features are described.

Range plastic extruded sheet, knitted, spun bonded, felt bonded, woven, warp, weft, bias, selvedge, stentering.

1.4 Weaving types are described.

Range plains, oxford, twill, Dehrsuti, jacquard, ripstop, panama.

**Outcome 2**

Demonstrate knowledge of fabric finishes for industrial textile fabrication.

**Performance criteria**

2.1 Fabric treatments are described.

Range coatings, waterproofing, ultra violet (UV) stabilisers, mildew inhibiters.

2.2 Fabric colouring methods and colourants are described.

Range methods – mass dyed, yarn dyed, piece dyed, printed;

colourants – dye stuffs, pigments.

2.3 Polyvinylchloride (PVC) coating methods are described.

Range laminate, hot melt, spread coat.

**Outcome 3**

Demonstrate knowledge of fabric specifications.

**Performance criteria**

3.1 Terminology used to specify mass per area of fabric is described.

Range loom state, finished state, ounces per square yard, grams per square metre.

3.2 Terminology used to specify the measurement of yarn is described.

Range denier, tex, decitex, cotton count.

3.3 Terminology used to specify the thread count of a fabric is described.

Range pickscm, picksinch, endscm, endsinch, threads.

**Outcome 4**

Demonstrate knowledge of standard fabric tests.

**Performance criteria**

4.1 Standard fabric tests and the factors they measure are described.

Range tear strength, tensile strength, waterproofing, colour fastness, abrasion, flex, stretch, shrinkage, cold crack, UV resistance.

4.2 Fabric test results and their application to workplace products are described.

4.3 Specifications from two fabrics of similar end use capabilities are compared and the effect of the specifications differences on fabric performance is described.

**Outcome 5**

Demonstrate knowledge of material aesthetic properties.

**Performance criteria**

5.1 Fabric colours and their associated properties are described.

Range weathering, pollution, contamination, UV, water.

5.2 Textures exhibited by workplace fabrics are described.

Range light effects – shadows, translucency, opacity, gloss, matt;

physical effects – rough, smooth, hard, soft, flexible, rigid.

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| Replacement information | This unit standard and unit standard 23509 replaced unit standard 1323. |

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| Planned review date | 31 December 2025 |

**Status information and last date for assessment for superseded versions**

| Process | Version | Date | Last Date for Assessment |
| --- | --- | --- | --- |
| Registration | 1 | 26 March 2007 | 31 December 2023 |
|  | 2 |  | 31 December 2023 |
| Review | 3 |  | N/A |

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| Consent and Moderation Requirements (CMR) reference | 0014 |

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

**Comments on this unit standard**

Please contact MITO New Zealand Incorporated [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.