Title	**Demonstrate knowledge of textile fibre blending**		
Level	**4**	**Credits**	**20**

Purpose	People credited with this unit standard are able to demonstrate knowledge of: fibre blending; blending system machinery; and blending additives and their application.

Classification	Textiles Manufacture > Core Yarn Processing

Available grade	Achieved

Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of fibre blending.

Performance criteria

1.1 Blending systems are described and compared in terms of benefits and disadvantages.

Range pile or stack, batch, continuous, multiple binning.

1.2 Blending systems are described in terms of factors that influence the selection and suitability of the blending system.

Range types of fibre being blended, batch size, component quantity in proportion to batch size, and machine and system availability.

1.3 Fibre blending is described in terms of process objectives.

Range yarn performance characteristics, mixing or blending fibre, special technical fibres, add-effect fibres, and optimisation of processing performance and cost.

1.4 Blend component proportions and costs are calculated, using industry standard methods.

Range standard methods – cost of blend from components of known cost, blend of given cost by allocating components of known cost.

Outcome 2

Demonstrate knowledge of blending system machinery.

Performance criteria

2.1 A weigh box or scale system, a weigh conveyor, and an automated bale opening and weighing system are described in terms of function and operation.

2.2 Machines used in blending systems for opening and dusting are described in terms of function and operation.

Range cyclic opener, fearnought, disc opener, step blender, rotary blender.

2.3 Pneumatic fibre transfer equipment is described in terms of function and operation.

Range fans, ducting, switches, condenser, rotary spreader.

2.4 Bin unloading devices are described in terms of function and operation.

Range suction, spiked lattice.

Outcome 3

Demonstrate knowledge of blending additives and their application.

Performance criteria

3.1 Additives applied to fibre during blending are described in terms of their nature and function

Range water, processing lubricants, anti-stats, fugitive dyes.

3.2 Processing lubricants are described and compared in terms of type, properties, and processing characteristics.

Range lubrication, emulsion stability, flash point, effect on machines and component wear, viscosity, solubility in water, activity, pH.

3.3 Additive application information is calculated in terms of quantity required, emulsion mix, and application rate.

3.4 Additive application systems are described in terms of function and operation.

Range open emulsion spray, enclosed emulsion spray, enclosed atomised spray, automated systems.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 1995	31 December 2019
Revision	2	8 August 1997	31 December 2019
Revision	3	18 July 2000	31 December 2019
Revision	4	10 October 2001	31 December 2019
Revision	5	12 August 2004	31 December 2019
Review	6	23 April 2008	31 December 2019
Review	7	19 May 2016	31 December 2023
Review	8	24 March 2022	31 December 2023

Consent and Moderation Requirements (CMR) reference	0030

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