

Title	Blend furnish		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of furnish blending; operate stock chests and agitators to blend furnish; and monitor and control the performance of furnish blending equipment.
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Classification	Wood Fibre Manufacturing > Pulp and Paper Manufacturing Skills
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Available grade	Achieved
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Guidance Information

1 Legislation and references

Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

- Hazardous Substances and New Organisms Act 1996;
- Health and Safety at Work Act 2015;
- Resource Management Act 1991;
- Health and Safety at Work (Major Hazard Facilities) Regulations 2016.

2 Definitions

Furnish refers to the fibrous product constituents of pulp and paper (including recycled papers, pulps and broke) blended in stock preparation to meet the requirements of various final pulp or paper product grades.

Operating parameters refer to the boundary conditions in which the operations are carried out in furnish blending.

Operating procedures refer to the process(es) that are worked through, e.g. standard operating procedure (SOP) in furnish blending.

Worksite documentation refers to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer's requirements. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, sustainability, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the pulp and paper industry.

3 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, worksite documentation and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of furnish blending.

Performance criteria

- 1.1 Purposes of furnish blending are explained in terms of end use and uniformity of standards.
- 1.2 Operation of stock chests and agitators is explained in terms of consistency, level, and incorrect agitation.
- 1.3 Effect of furnish blending on product value and quality is explained.
- 1.4 Operating components and process controls of furnishing blending system are described and their purpose is explained.

Range operating components may include but are not limited to – pumps, valves, agitators, chests, process monitoring equipment, flow meters, distributed control system (DCS).
- 1.5 Operating parameters and capability of furnish blending system are explained.
- 1.6 Hazards associated with blending furnish are identified, and actions to be taken to minimise, or eliminate the hazard are explained.

Range hazards may include but are not limited to – height, heat, gas, confined space.
- 1.7 Consequences of non-conformance of furnish blending with worksite operating procedures are explained.
- 1.8 Roles and responsibilities of the stock blending system operator are explained.

Outcome 2

Operate stock chests and agitators to blend furnish.

Performance criteria

- 2.1 Safe work practices associated with operating stock chests and agitators are identified and used.
- Range practices may include but are not limited to – isolation procedures, lock-outs or tag-outs, emergency stops, machine guarding, wearing appropriate safety equipment.
- 2.2 Stock chests and agitators are set up, started up, operated, and shut down.
- 2.3 Operating parameters are set and adjusted to enable production requirements to be achieved.
- Range operating parameters may include but are not limited to – mix ratio, volume, flow rate, consistency, pH, temperatures, freeness; production requirements – furnish specifications, colour control, grade change.
- 2.4 Essential care and housekeeping requirements for furnish blending system are carried out.

Outcome 3

Monitor and control the performance of furnish blending equipment.

Performance criteria

- 3.1 Performance of furnish blending equipment is monitored and parameters are controlled in accordance with operating parameters.
- 3.2 Operating and equipment faults and malfunctions are identified, and relevant corrective actions are taken.
- Range operating faults and malfunctions may include but are not limited to – blockages, leaks, spillages, poor blend quality; equipment faults and malfunctions – mechanical, electrical, instrumentation, distributed control systems (DCS), programmable logic controller systems.
- 3.3 Blended furnish is monitored to meet specified requirements.
- 3.4 Production rate is regulated in accordance with process requirements.
- Range downstream demand, blending capability.
- 3.5 Selection of next production stage for product, and routing of output furnish to further processing stages, is carried out.
- 3.6 Production, maintenance, and quality records are completed.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 February 1995	31 December 2024
Revision	2	27 January 1997	31 December 2024
Review	3	25 February 1999	31 December 2024
Review	4	18 December 2006	31 December 2024
Review	5	24 October 2014	31 December 2025
Review	6	30 November 2023	N/A

Consent and Moderation Requirements (CMR) reference	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact 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.