

Title	Reclaim wood pulp fibre at low consistency for pulp or paper manufacturing		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of pulp concentration; operate low-consistency pulp concentration equipment; and monitor and control the performance of low-consistency pulp concentration 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

Operating parameters refer to the boundary conditions in which the operations are carried out in operating low-consistency pulp concentration equipment.

Operating procedures refer to the process(es) that are worked through, e.g. standard operating procedure (SOP) in operating low-consistency pulp concentration equipment.

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 pulp concentration.

Range pulp concentration equipment may include – vacuum mould, drum thickener, wire screen, disc filter.

Performance criteria

1.1 Function of pulp concentration in the pulp and paper making process is explained.

1.2 Operating components and process controls of pulp concentration equipment are described and their purpose is explained.

Range components include –
vacuum mould – vacuum pump, vacuum mould, separator tanks, white water system, broke system;
drum thickener – vat, vacuum breaker, showers, pre-dewatering roll, dump valve, drums, drum fabrics, bands, pick up roll, doctor blade, shredder, dilution system, white water recoveries, gauges;
wire screen – drum, inlet valves, showers, inlet weir;
disc filter – breaker showers, knockoff showers, oscillating showers, stock infeed, dump valve, drop sheet, vacuum source, valve bridge, discs, gauges;
evidence is required for one type of equipment used on site.

1.3 Hazards associated with pulp concentration equipment are identified and actions to be taken to minimise, or eliminate the hazard are explained.

Range hazards may include but are not limited to – moving equipment, vacuum, water, electricity.

1.4 Consequences of non-compliance of pulp concentration equipment with worksite operating procedures are described.

1.5 Roles and responsibilities of the pulp concentration equipment operator are described.

Outcome 2

Operate low-consistency pulp concentration equipment.

Range pulp concentration equipment may include – vacuum mould, drum thickener, wire screen, disc filter;
evidence is required for one.

Performance criteria

- 2.1 Safe work practices associated with operating low-consistency pulp concentration equipment 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 Pulp concentration equipment is 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 – consistency, flow rate.
- 2.4 Essential care and housekeeping requirements for the pulp concentration equipment are carried out.

Outcome 3

Monitor and control the performance of low-consistency pulp concentration equipment.

Range pulp concentration equipment may include – vacuum mould, drum thickener, wire screen, disc filter;
evidence is required for one.

Performance criteria

- 3.1 Pulp concentration 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 – blocked screens;
equipment faults and malfunctions – mechanical, electrical, instrumentation, distributed control system.
- 3.3 Output product pulp moisture content, pulp consistency, and water quality are monitored to meet specified requirements.
- 3.4 Production rate is regulated in accordance with process requirements.
- 3.5 Product and process testing is carried out.
- Range on-line testing, off-line testing.
- 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	25 February 1999	31 December 2024
Review	2	18 December 2006	31 December 2024
Review	3	24 October 2014	31 December 2025
Review	4	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.