

<b>Title</b>	<b>Refine paper furnish at low consistency</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>People credited with this unit standard are able to: explain fundamentals of refining; operate and maintain refiners efficiently; and monitor and control the efficient performance of refiners.</p> <p>This unit is for operators refining paper furnish in preparation for paper making.</p>
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<b>Classification</b>	Wood Fibre Manufacturing > Paper Making
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<b>Available grade</b>	Achieved
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### Explanatory notes

#### 1 Definitions

*Furnish* refers to the fibrous and non-fibrous constituents of paper (including waste papers, pulps, dyes, and additives) blended into stock preparation to meet the requirements of various paper grades.

*Worksite documentation* refers to instructions to staff on policy and procedures (including the application of legislation to worksite situations) which are formally documented, and are available for reference at the worksite. Examples are standard operating procedures, specifications, manuals, and manufacturer's information.

#### 2 The following apply to the performance of all outcomes of this unit standard:

- a All work practices must meet recognised codes of practice and documented worksite health and safety and environmental procedures (where these exceed code) for personal, product, and worksite health and safety, and must meet the obligations required under current legislation, including the Health and Safety in Employment Act 1992, the Resource Management Act 1991, and their subsequent amendments.
- b All work practices must meet documented worksite quality management requirements. This includes the recording (by electronic or non-electronic means) of activities, events, and decisions.
- c All communications made in relation to this unit standard must be made in accordance with worksite procedures for content, recipient, timing, and method.

### Outcomes and evidence requirements

#### Outcome 1

Explain fundamentals of refining.

**Evidence requirements**

1.1 Function of refiners in the pulp and paper making process is explained in accordance with worksite documentation.

1.2 Operating parameters and capability of refiners are explained in accordance with worksite documentation.

Range may include but is not limited to – throughput capability, energy input, freeness, consistency, refiner plate configuration.

1.3 Operating components and process controls of refiners are identified, and their purpose is explained, in accordance with worksite documentation.

Range may include but is not limited to – seal water system, refiner lubrication system, flushing systems, stock approach system, hydraulic system, plate mounting, distributed control system.

1.4 Hazards associated with refining are identified, and actions to be taken to isolate, minimise, or eliminate the hazard are described in accordance with worksite documentation.

Range hazards may include but are not limited to – noise, wet surfaces, heat, rotating equipment.

1.5 Consequences of non-conformance of refining with worksite operating procedures are described in accordance with worksite documentation.

1.6 Roles and responsibilities of the refiner operator are described in accordance with worksite documentation.

**Outcome 2**

Operate and maintain refiners efficiently.

**Evidence requirements**

2.1 Safe work practices associated with operating and maintaining refiners are demonstrated in accordance with worksite documentation and legislative requirements.

Range practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing appropriate safety equipment.

2.2 Refiners are set up, started up, operated, and shut down efficiently in accordance with worksite documentation.

2.3 Setting and timely adjustment of operating parameters enables production requirements to be achieved in accordance with worksite documentation.

Range operating parameters may include but are not limited to – consistency, energy input, stock volume, freeness.

2.4 Preventative maintenance and cleaning requirements for the refiner are carried out in accordance with worksite documentation.

**Outcome 3**

Monitor and control the efficient performance of refiners.

**Evidence requirements**

3.1 Monitoring and interpretation of feedback information and the timely adjustment of control parameters enable product quality, efficient plant performance, and process and legislative requirements to be maintained in accordance with worksite documentation.

Range plant performance – energy consumption, refiner plate condition; product quality – consistency, freeness.

3.2 Operating and equipment faults and malfunctions are identified, and corrective action is taken, in accordance with worksite documentation.

Range operating faults and malfunctions – leakage, load backing off.

3.3 Output stock meets the requirements of worksite documentation for quantity and quality.

3.4 Selection of next production stage for product and routing of output stock to further processing stages is carried out in accordance with worksite documentation.

3.5 Production, maintenance, and quality records are explained and completed in accordance with worksite documentation.

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<b>Planned review date</b>	31 December 2019
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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	N/A
Revision	2	27 January 1997	N/A
Review	3	25 February 1999	N/A
Review	4	18 December 2006	N/A
Review	5	24 October 2014	N/A

**Consent and Moderation Requirements (CMR) reference**

0173

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

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

**Comments on this unit standard**

Please contact Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.