

Title	Blend chemical additives for paper production		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: explain the fundamentals of chemical addition for paper manufacturing; operate and maintain an additive blending system efficiently; and monitor and control the efficient performance of an additive blending system.
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Classification	Wood Fibre Manufacturing > Paper Making
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Available grade	Achieved
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Entry information	
Critical health and safety prerequisites	Unit 21467, <i>Store and handle workplace chemicals</i> ; or demonstrate equivalent knowledge and skills.

Explanatory notes

1 Definitions

Furnish refers to the fibrous and non-fibrous constituents comprising 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 the 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 the Hazardous Substances and New Organisms Act 1996, and their subsequent amendments.
- b All work practices must meet documented worksite operating procedures. 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 the fundamentals of chemical addition for paper manufacturing.

Evidence requirements

- 1.1 Purpose of adding and blending chemicals and additives into furnish is explained in accordance with worksite documentation.
- 1.2 Operating components and process controls of a mixing and blending system are identified, and their purpose and operation are explained, in accordance with worksite documentation.
- 1.3 Methods of chemical addition are explained in accordance with worksite documentation.
- Range chemicals may include but are not limited to – dyes, alum, caustic, acids, wax, clays, retention aid, fillers, slimicide, fungicides.
- 1.4 Hazards associated with the handling of chemical additives 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 – chemicals, moving equipment, electricity.
- 1.5 Consequences of non-conformance with worksite operating procedures are described in accordance with worksite documentation.
- 1.6 Roles and responsibilities of the additive blending system operator are described in accordance with worksite documentation.

Outcome 2

Operate and maintain an additive blending system efficiently.

Evidence requirements

- 2.1 Safe work practices associated with operating and maintaining an additive blending system are identified and used 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 System is 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 – strengths, quantity, quality;
production requirements – product quality, production rate.

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

Outcome 3

Monitor and control the efficient performance of an additive blending system.

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.

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 may include but are not limited to – blockages, leaks, spills, distributed control system alarms, environmental, safety interlocks;
equipment faults and malfunctions – electrical, mechanical, hydraulic, pneumatic, instrumentation, distributed control system.

3.3 Blended product meets the requirements of worksite documentation for product quality and runnability.

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

Planned review date	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	25 February 1999	N/A
Review	2	18 December 2006	N/A
Review	3	24 October 2014	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>.

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 if you wish to suggest changes to the content of this unit standard.