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| **Title** | **Crepe and dry paper web** | | |
| **Level** | **4** | **Credits** | **20** |

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| **Purpose** | People credited with this unit standard are able to: explain fundamentals of machine-glazed (MG) cylinders, direct-fired hood systems, and paper creping systems; operate and maintain MG drying and creping systems efficiently; and monitor and control the efficient performance of MG drying and creping systems.<br><br>This unit standard is particularly applicable to tissue machines with a direct-fired (gas or fuel oil) hood in association with a yankee or machine-glazed (MG) cylinder. |

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| **Classification** | Wood Fibre Manufacturing > Paper Making |

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| **Available grade** | Achieved |

This unit standard is expiring

**Guidance Information**

1 Definition
*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, 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 performance criteria

**Outcome 1**

Explain fundamentals of MG cylinders, direct-fired hood systems, and paper creping systems.


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**Performance criteria**

1.1 Functions and operation of MG cylinders and direct-fired hood systems in the paper making process are described in accordance with worksite documentation.

1.2 Principles of paper creping are explained in accordance with worksite documentation.

1.3 Operating parameters and capability of MG cylinders and direct-fired hoods are explained in accordance with worksite documentation.

Range MG parameters may include but are not limited to – temperature, rotation speed, press load;
direct-fired hood parameters may include but are not limited to – burner combustion, air temperature, air velocity, air flows.

1.4 Operating components and process controls of MG cylinders, direct-fired hood, and creping systems are identified, and their operation and purpose is explained, in accordance with worksite documentation.

Range operating components of MG cylinders may include but are not limited to – temperature and pressure control systems, steam system, moisture control system, press, felt, chemical coating system;
operating components of the direct-fired hood may include but are not limited to – hood air temperature control, moisture profile control, damper systems, fuel systems, fan systems;
operating components of the creping system may include but are not limited to – MG cylinder, boom spray, doctor blades and holders, oscillator, doctor loading system.

1.5 Hazards associated with the MG drying and creping systems 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, fire, steam, heat, sharp edges, moving equipment, nips, wet surfaces, confined space.

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

1.7 Roles and responsibilities of the MG drying and creping operator are described in accordance with worksite documentation.

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**Outcome 2**

Operate and maintain MG drying and creping systems efficiently.

Range MG cylinders may include but are not limited to – temperature and pressure control systems, steam system, moisture control system, press, felt, chemical coating system;
direct fired hood may include but is not limited to – hood air temperature control, moisture profile control, damper systems, fuel systems, fan systems;
creping system may include but is not limited to – MG cylinder, boom spray, doctor blades and holders, oscillator, doctor loading system.

**Performance criteria**

2.1 Safe work practices associated with operating and maintaining MG drying and creping systems 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 MG drying and creping 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 for drying and creping in accordance with worksite documentation.

2.4 Fire fighting procedures are followed in accordance with worksite documentation.

2.5 Preventative maintenance and cleaning requirements are carried out in accordance with worksite documentation.

**Outcome 3**

Monitor and control the efficient performance of MG drying and creping systems.

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**Performance criteria**

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 control parameters may include but are not limited to – hood temperature, cylinder rotation speed, steam pressure, condensate levels, doctor blade pressure, blade heights, blade angle, blade type;
process requirements may include but are not limited to – moisture profile, crepe regularity, coarseness, sheet finish, visual defects, fuel economy.

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

Range operating faults may include but are not limited to – temperature fluctuations, abnormal moisture content fluctuations, poor creping quality, sheet finish;
equipment faults and malfunctions – electrical, mechanical, hydraulic, pneumatic, instrumentation, distributed control system.

3.3 Output product meets the requirements of worksite documentation for moisture content and profile, crepe regularity, coarseness, sheet finish, and visual defects.

3.4 Production rate is regulated in accordance with worksite documentation and process requirements.

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

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| **Replacement information** | This unit standard replaced unit standard 3583, unit standard 3600, and unit standard 3601. |

**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 December 2006 | 31 December 2025 |
| Review | 2 | 24 October 2014 | 31 December 2025 |
| Review | 3 | 30 November 2023 | 31 December 2025 |

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| 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.

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