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| Title | Manage technical aspects of gluing operations for wood panels manufacturing | | |
| Level | 5 | Credits | 20 |

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| Purpose | <p>This unit standard is for people who are, or intend to be, employed in the wood panels manufacturing industry, and is aimed at people, such as production managers and some operators, who have responsibility for production supervision of the gluing of wood furnish for the manufacture of reconstituted wood panels.</p> <p>People credited with this unit standard are able to: explain the principles of polymer bonding in relation to the resins used in the manufacture of wood panels; formulate glue recipes for wood panels manufacturing; and resolve gluing problems for wood panels manufacturing.</p> |
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| Classification | Wood Manufacturing - Generic Skills > Wood Panel Manufacturing Skills |
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| Available grade | Achieved |
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Guidance Information

- 1 Range
wood panels may include but are not limited to – plywood, medium density fibreboard (MDF), particleboard, laminated veneer lumber (LVL);
evidence of one is required.
- 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 must be made in accordance with worksite procedures for content, recipient, timing and method.
- 3 Definitions
Corrective action refers to actions such as communication to management, communication to on-site technical support person, communication to off-site

technical support person, cleaning, communication with maintenance staff, recalibration, or changes made to the operating system in accordance with worksite documentation.

Worksite policies and procedures refer to documented policies and to documented or other directions provided to staff. These include, but are not limited to, ways of managing health and safety, environmental considerations, quality, and production, and must conform to legislation. Examples include standard operating procedures, company health and safety plans, on-site briefings, and supervisor's instructions.

4 Recommended skills and knowledge:

Unit 695, *Apply bonding agents for wood panel manufacture*, or demonstrate equivalent knowledge and skills.

Outcomes and performance criteria

Outcome 1

Explain the principles of polymer bonding in relation to the resins used in the manufacture of wood panels.

Range may include but is not limited to – urea formaldehyde, melamine fortified formaldehyde, phenolic resin.

Performance criteria

- 1.1 The physical and chemical properties of resins are described in terms of mole ratio, solids content, viscosity, gel time, shelf life, tack, and water durability.
- 1.2 Panel properties associated with specific resins are described in terms of product durability in relation to moisture exposure and degree of formaldehyde emission.
- 1.3 Methods of minimising formaldehyde emission are explained in accordance with worksite policies and procedures.

Range selection of low-emission resins, addition of chemical additives to resin, post-treatment of panels, altering operating parameters.

Outcome 2

Formulate glue recipes for wood panels manufacturing.

Performance criteria

- 2.1 The ratio of resin solid to wood is calculated in terms of desired panel strength.
- 2.2 The ratio of wood to water is calculated in terms of pressing conditions.
- 2.3 Hardeners or retarders are added to the glue recipe to match pressing time requirements.

2.4 Additives are included in recipes to meet the requirements of worksite policies and procedures for product specifications.

Range additives may include but are not limited to – wax, insecticide, mouldicide, fungicide, dye; evidence of a minimum of one additive is required.

2.5 Recipe requirements are identified to meet customer specifications.

Outcome 3

Resolve gluing problems for wood panels manufacturing.

Performance criteria

3.1 Problem causes and potential solutions are identified in accordance with worksite policies and procedures.

Range problems may include but are not limited to – delamination, glue-related surface defects, out-of-specification glue-related test results.

3.2 Corrective action is taken in accordance with the requirements of worksite policies and procedures for cost-effectiveness, maintenance of product specifications, and conformance with worksite environmental, safety, and quality management requirements.

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| Replacement information | This unit standard replaced unit standard 706. |
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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 | 25 March 1999 | 31 December 2020 |
| Review | 2 | 29 March 2005 | 31 December 2020 |
| Rollover and Revision | 3 | 23 February 2007 | 31 December 2020 |
| Review | 4 | 15 April 2011 | 31 December 2020 |
| Review | 5 | 23 April 2020 | 31 December 2020 |
| Rollover | 6 | 10 December 2020 | 31 December 2022 |

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| Consent and Moderation Requirements (CMR) reference | 0013 |
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.