40351 Control warp during production of fibreboard packaging

Kaupae | Level	4
Whiwhinga | Credit	25
Whāinga | Purpose	This skill standard is intended for people who already have experience working in the fibreboard packaging industry and will be able to work independently as a competent skilled operator. They will be able to control the full operations of a corrugator and take actions to remove or reduce warp and produce corrugated board without warp over extended periods at high production speeds. This skill standard aligns with the New Zealand Certificate in Fibreboard Packaging (Level 4) with strands in Case Converting, Case Corrugating, and Carton Converting [Ref: 1820].
Whakaakoranga me mātua oti | Pre-requisites	Unit standard 340, *Demonstrate knowledge of safe working practices in the print industry*, or demonstrate equivalent knowledge and skills.

Hua o te ako me Paearu aromatawai \| Learning outcomes and assessment criteria

Hua o te ako | Learning outcomes	**Paearu aromatawai** | Assessment criteria
1. Demonstrate actions required to remove or reduce warp.	a. Anticipate forthcoming paper changes through checking production documentation, communicating with crew members and identification of possible equipment adjustments.
	b. Take proactive corrective measures to reduce the risk of warp in anticipation of paper changes.
	c. Explain the effects of corrective actions in the workplace in terms of workplace procedures.
2. Produce board without warp over extended periods at high production speeds.	a. Produce board to meet job requirements at a minimum of 80% of plant listed maximum speeds for extended periods, excluding paper changes.
	b. Respond to warp warnings immediately.
	c. Communicate with corrugator crew to ensure there are no delays to production.
	d. Follow workplace procedures in the event of failure to reduce warp.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

- Evidence presented for assessment against this skill standard must include controls for cross directional (CD) warp, machine directional (MD) warp and diagonal warp.
- The process for defining and calculating warp is: when a warped board is laid on a level surface so as to form a shallow arch, the maximum vertical deviation from the horizontal is expressed as a percentage of the board dimension that forms the arch. Warp is assessed at take-off, and thus excludes ‘post warp’.
- General control of warp is achieved by varying proportions of direct control over the different corrugator workstations, adjusting machine parameters and by co-ordinating the efforts of other operators at these workstations.
- Evidence presented for assessment against this skill standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

Definitions

Corrective measures available may be taken in any combination or sequence which is in accordance with workplace procedures and machine requirements.

Cross directional (CD) warp refers to the line of curvature (warp) moving across the corrugator.

Diagonal warp (twist or propeller warp) refers to board where MD and CD edges are straight, however a line parallel to one edge and following the surface successively changes its slope over the sheet area.

Extended periods are defined as periods of at least one hour's duration, and including several paper changes.

Job documentation refers to the documentation that is used in the workplace that contains the instructions and requirements for a particular production job. This may include but is not limited to – workplace orders, production orders, workplace specifications, samples, lay cards.

Job requirements refer to specific requirements for the fibreboard packaging job at hand. These requirements may or may not be covered in the job documentation and may include special instructions, quality requirements expected by the customer, and/or production standards as set down by the fibreboard packaging workplace and/or organisation.

Machine directional (MD) warp refers to the line of curvature (warp) moving in the direction of the corrugator.

Plant listed maximum speed refers to the speed that is determined by each workplace as appropriate for specific production conditions taking into account paper grades, flutes, run length, and chop length.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. 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, manufacturer’s requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor’s instructions, and procedures to comply with legislative and local body requirements relevant to the fibreboard packaging industry.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

- Warp control of different types of warp including cross directional, machine directional and diagonal warp.
- Paper changes include paper grade, type, width, and any combination of these.
- Proactive control measures such as tension control, moisture control, switching paper reels and machine specification checks.

Rauemi | Resources

Legislation relevant to this skill standard includes but is not limited to:

- Health and Safety at Work Act 2015.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this skill standard will take precedence for assessment purposes, pending review of this skill standard. Legislation can be accessed at: https://www.legislation.govt.nz.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa | Standard Setting Body	Hanga-Aro-Rau Workforce Manufacturing, Engineering and Logistics Development Council
Whakaritenga Rārangi Paetae Aromatawai | DASS classification	Manufacturing > Fibreboard Packaging > Fibreboard Packaging Production
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga | CMR	0013

Hātepe | Process	**Putanga** | Version	**Rā whakaputa** | Review Date	**Rā whakamutunga mō te aromatawai** | Last date for assessment
Rēhitatanga | Registration	1	28 November 2024	N/A
Kōrero whakakapinga | Replacement information	This skill standard replaced unit standard 27811.		
Rā arotake | Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council at qualifications@hangaarorau.nz if you wish to suggest changes to the content of this skill standard.