LUMIN
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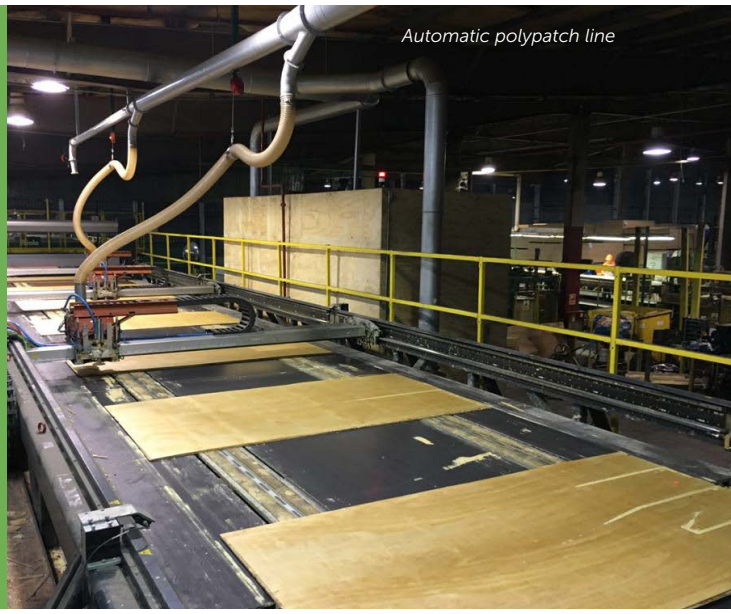
Customer Bulletin

ISSUE 6: LUMIN QUALITY AND CERTIFICATION

> "QUALITY MEANS DOING IT RIGHT WHEN NO ONE IS LOOKING."
>
> Henry Ford

In previous LUMIN Bulletins, we have highlighted how quality control and assurance are an integral part of the LUMIN process – from the planting of seedlings, the growing of trees, the sophisticated monitoring equipment throughout the entire manufacturing process, finished product grading, all the way through to logistics and shipment to our global clients.

Looking at the subject in greater detail, this Bulletin will explore quality control and testing in relation to LUMIN plywood panels, global certification and how we manage new product development.



Automatic polypatch line

Testing protocols

In addition to sophisticated monitoring equipment, including online blow detection that collects data throughout the LUMIN plywood manufacturing process, LUMIN has robust systems in place to achieve optimum quality control. Daily tests include assessment of density and moisture content of all raw eucalyptus and pine materials, with high frequency controls.

These stringent measures ensure optimal conditions for production for all specific products (including green and dry veneer), during the manufacture of LUMIN plywood.

The next step in quality control is to calibrate and control the sizing and repair of the panels. This includes both manual processes and those conducted by new automatic processes on the polypatch line. Premium LUMIN grades including Overlay, BC and CCX PTS are subsequently sanded and recalibrated in a stringent, quality controlled process.

To ensure all products comply with the relevant regulations and certifications globally, laboratory tests are conducted for each plywood batch and each production shift.

These tests include:

- Density
- Percentage moisture content
- MOE (modulus of elasticity)
- Glue quality

A key test for glue quality includes samples subjected to 24 and 72 hours of boiling, 24 hours of cold water, vacuum-pressure and then further assessment.

We have also developed proprietary software which allows us to monitor, evaluate and analyse the data recorded from the process, enabling us to achieve continuous improvement.

Specimen being subject to a 72-hour boil test

Samples in an oven being assessed for moisture content

Testing the Modulus of Elasticity (MOE)

Shear test to assess glue-line quality

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Quality certifications

Conforming to international and local quality and environmental requirements, LUMIN plywood panels meet the standards of PS1, as certified by the TPI USA Agency and the standards of EN 13986 (CE2+), as certified by the BM Trada.

LUMIN also meets Europe's E1 emissions (formaldehyde) and is US EPA TSCA Title VI and CARB (California Air Resources Board) exempt with a PS1 or CE2+ structural stamp.

Additional approved product certifications include:

- AS / NZS 2269.0: 2012 – Australia / New Zealand, Bureau Veritas Agency
- IRAM 9506 – Argentina, Directly IRAM de.Ar
- CSA O324-16- (PS1-18) – Canada, Timber Products Inspection Agency

Also, LUMIN pine and eucalyptus have PEFC Chain of Custody (SGS Agency UY), while the plywood packaging is certified to ISPM 15, as required by MGAP Agricultural Services.

LUMIN operations are audited, annually, semi-annually and/or quarterly.

Quality Control

As the LUMIN manufacturing process is very controlled, it is unusual for a product not to meet the specified technical requirements.

Juan Manuel Rameau, LUMIN Quality Control Manager, is based at our mill in Tacuarembó, in Uruguay. Here he explains what happens in the rare event that a product does not meet the required specification:

"Firstly, we quarantine the product. We then conduct a retest and if it still does not meet the standard or certification requirements, it is downgraded to a non-certified product. We monitor production 24 hours a day, 7 days a week, so are very confident that our products meet the most stringent requirements globally on an ongoing basis."

New product development (NPD)

LUMIN has a clearly defined programme for new product development (NPD). This involves a rigorous evaluation process that spans all areas of the business, including timberlands, manufacturing and commercial.

We asked Juan Manuel Rameau to explain this in a bit more detail:

"Some new product evaluations come from short term requests from clients and some come from longer-term strategic work. For example, our thin peel TRP investment (see Bulletin 1) is a great example of where all parts of our business need to be aligned to make sure this is successful, and this is a key part of our NPD process today.

"We have a standard template for assessing the viability of new products. Ultimately for a new product to be successful, most importantly, it should offer commercial success for our clients, but also fit with our manufacturing and timberlands capabilities and constraints."

Plans for the future

Certification to global markets for new products, including the thin peel Tropical Replacement (TRP) panels will be a major focus for LUMIN in 2021.

In addition, with Brexit looming in Great Britain in January 2021, we are now working to ensure LUMIN complies with new specific requirements for this market going forward. More information will be shared on this soon.

LUMIN is also actively looking at lifecycle analysis (LCA) of the entire product range and keeping abreast of all new regulations and certifications worldwide.

We believe we are among the global leaders when it comes to product certification and we work hard to maintain this position.

If you have a topic you would like covered in a future Bulletin or if you have any questions, please get in touch and we will address it in an upcoming issue.

In the meantime, for the latest news and updates from LUMIN's timberlands and mill operations in Uruguay, follow the company LinkedIn page @LuminForestProducts

Learn more about the wider business and products by visiting www.lumin.com

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