The Production Of Laminated Logs

Introduction

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Raw materials

- The laminated logs are produced from a combination of the V and VI-quality graded timber. The heart-side has also been evaluated in the sorting.
- The timber sizes used are 50-75 mm thick and 150-225 mm in width - a typical size would be e.g. 75x225.
- The timber comes mainly from Finnish sawmills and the raw materials used are both pine and spruce.
- Usually 2-4 planks are glued together, but double gluing is also possible, so e.g. two four-piece laminated blocks are glued together. This way you get a 2x4 piece consisting of 8 planks.
- The standard humidity is 16% ±2 %.
- A successful gluing takes place in 20°C temperature and min. 50% humidity.

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Quality-checking of incoming goods and finger-jointing

- Each timber load is carefully examined and quality-checked
- Planks of not a high enough quality are put aside. The planks that will be will be finger-jointed are marked for defects, cut up automatically and then finger-jointed.
- Defects that are taken out include colour defects, dead knots, rot, cracks and other similar defects. If a plank has several defects, the entire plank is put aside
- If a log is glued of three or more layers, the planks are sorted into the edge and middle pieces. Because the finger jointing is done on planks, in the final laminated logs the joints are in different places.
- The planks are finger-jointed to a 6-12,2 m length with polyurethane glue.
- The quality of the finger-jointing is controlled visually, and the strength classified timber and finger joints are checked by the TR20:2010 standard. The quality control has been certified by Inspecta Sertifiointi Oy . A sample is taken from each production batch and checked.

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Pre-planing and gluing

- The glue surfaces of the planks are planed.
- Glue is spread automatically on the planks that need to be glued together.
- The planks are pressed together the heart-side facing out, and kept under compression for about 30 min. The compression force is 80-170 kN/m depending on the width of the plank.
- The quality of the gluing is being monitored from each production batch by the TR21:2010 standard.
- A sample is put in water, dried and then the glue joint is checked.
- The laminated log can still be profile-planed to the required profile, but usually this is done by the customer while manufacturing the final the log house product.

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Packing and product quality

- The finished logs are wrapped and packed in plastic and then delivered to the customers.
- The strongest part of the wood; the heart is put on the outer layer of the log. A laminated log will maintain its' dimensions better than traditional logs and it is less vulnerable for cracking or deforming. The defects of the wood are removed and it also looks nice.

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