



ID: S183

Title: Bio-based adhesive systems for engineered wood products application

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Improvement of the synthesis process of environmentally-friendly, sustainable adhesive systems, to enhance performance during their application on the production of engineered wood products (mainly glulam), in order to successfully replace synthetic adhesives made from petrochemicals. The development of such bio-based adhesive systems for engineered wood product applications and further experiments at industrial scale, that were realized in order to confirm the promising results previously obtained are included. Lignin-based adhesive systems were proved to provide industrial glulam products with performance comparable or even better, in some cases, to the products produced with conventional gluing systems.

Industrial production



Glue mixture and hardener applied on a lamella through the “curtain” application system



Glue mixture application and spreading



Resinated lamellas gathered in blocks before press



Pilot laminated timber testing

Testing of 3-lumber specimens (50 cm x 4cm x 2.7cm), 100% wood failure