

# Development of a construction panel made from crushed wood scrim

Degree programme : Master of Science in Wood Technology  
Specialisation : Management of Processes and Innovation  
Thesis advisor : Prof. Dr. Heiko Thömen

The Scrimber technology is used to create high-performance materials from low-quality wood. A novel single-layer board was developed using an industrially viable process. The developed panel shows promising results for a scaleable, resource-efficient usecases.

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## Introduction

The Scrimber-Technology offers a way to produce materials with properties from low quality wood. In this thesis, a single layer board is manufactured from scattered Scrimber wood. The industrial feasibility does not yet exist and there is a need for an industrially viable method. Therefore, in this thesis, a single layer board is developed and tested, which is made from the core layers of cross-laminated timber. The board is produced in a self developed laboratory process with regards to an industrial scale up. The laboratory process includes glue application in a glue drum, unidirectional mat forming in a forming mould and pressing in a hot press. It has been possible to develop an industry-oriented laboratory process with homogeneous Scrimber-Strand orientation and very homogeneous density distribution.

## Results

Panels produced using this process achieve a flexural strengths of approximately 62 N/mm<sup>2</sup>, E-modulus of 17'000 N/mm<sup>2</sup>, which exceeds the target values of 16 N/mm<sup>2</sup> and 8'000 N/mm<sup>2</sup>. The target value for thick-



Scrimber strand (Picture Source: BEKB)



Scrimber board (Picture Source: BEKB)