

# **LOADBEARING STRUCTURES FROM RECLAIMED WOOD – STRATEGIES, DESIGN PARAMETERS AND REFLECTIONS**

*Olga Popovi Larsen, Xan Browne*

## **ABSTRACT**

*It is a well-known fact that the building sector is one of the largest polluting and CO2 emission-contributing sectors. In addition, what nature has created over millennia as material resources is being used up very quickly, with some materials already becoming scarce. The climate emergency we are facing calls for better and more sustainable approaches for the building sector.*

*This is the motivation and starting point for this paper, which presents three different strategies for building load-bearing structures in wood. Through three full-scale prototypes, we put forward strategies, design parameters, and reflections about the opportunities and challenges of utilizing second-hand wood for load-bearing structures. The three projects all seek to investigate the viability of wood cascading, giving wood a longer life in its solid form by offering a load-bearing structural design that can be reused several times. Furthermore, ReciPlyWood, Waste Wood Canopy, and Wood ReFramed test different strategies for structural safety through robustness as well as simple connection systems. Optimizing usability, buildability, and aesthetics and weighing them out has been important in all three projects. The paper ends with a reflection of the process and results and points to steps needed for wood to be accepted as a multigenerational material for load-bearing structures.*

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