

A study of the relative proportions of wood-based panels found in the POP fraction of recovered wood

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Keywords : recovered wood; POP fraction; categorize; recycling

Context and objectives

The EcoReFibre project (ecorefibre.eu) offers ecological solutions and advocates sustainability by aiming to replace up to 25% of the raw fibres used in the production of new fibreboards with recycled fibres. This requires better knowledge of the contents of the wood waste stream. Consequently, many samples have been collected from waste facilities in different countries (Irle et al 2023). These samples contain mixed wood wastes and are sorted into four fractions: solid wood, POP, fibreboard and non-wood. The group called POP consists of the wood-based panels Particleboard, OSB, and Plywood. Knowing the types and proportions of wood-based materials that have been glued, painted, veneered, etc., is crucial for guiding future recycling options.

Material and methods

As part of the EcoReFibre project, waste collection has been ongoing since July 2022, primarily in France and several other countries (Fig. 1). The samples collected for the project was sorted by hand divided into four categories: POP, non-wood materials, solid wood, and fibreboard. The POP fraction was divided into Particleboard pure, and Particleboard with coating, OSB, Plywood pure, Plywood with coating. The categorized wood-based pieces were weighed and measured (Fig. 2).

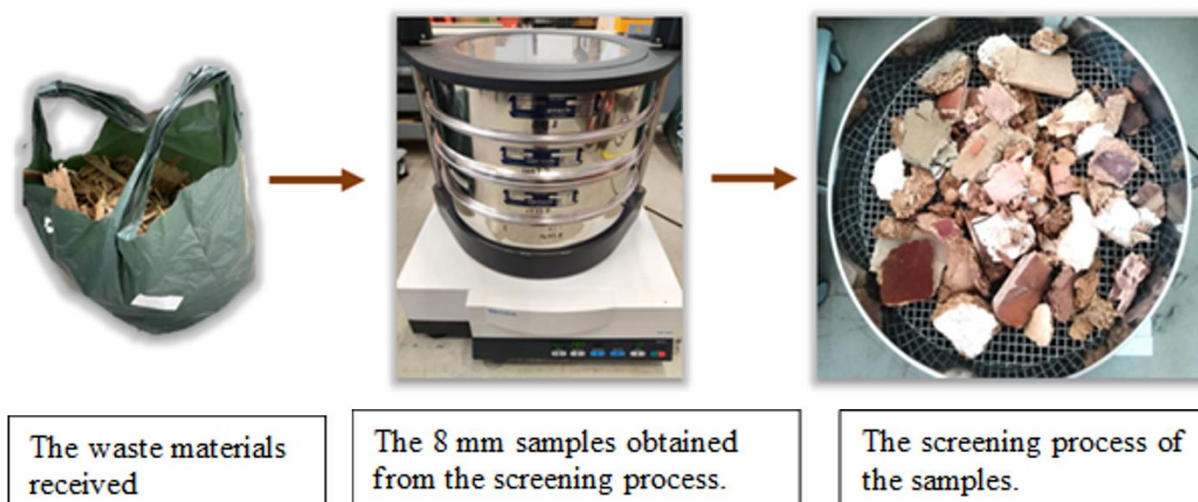


Fig. 1: Photographs of the main steps of sample preparation.

Categorization of the POP fraction.

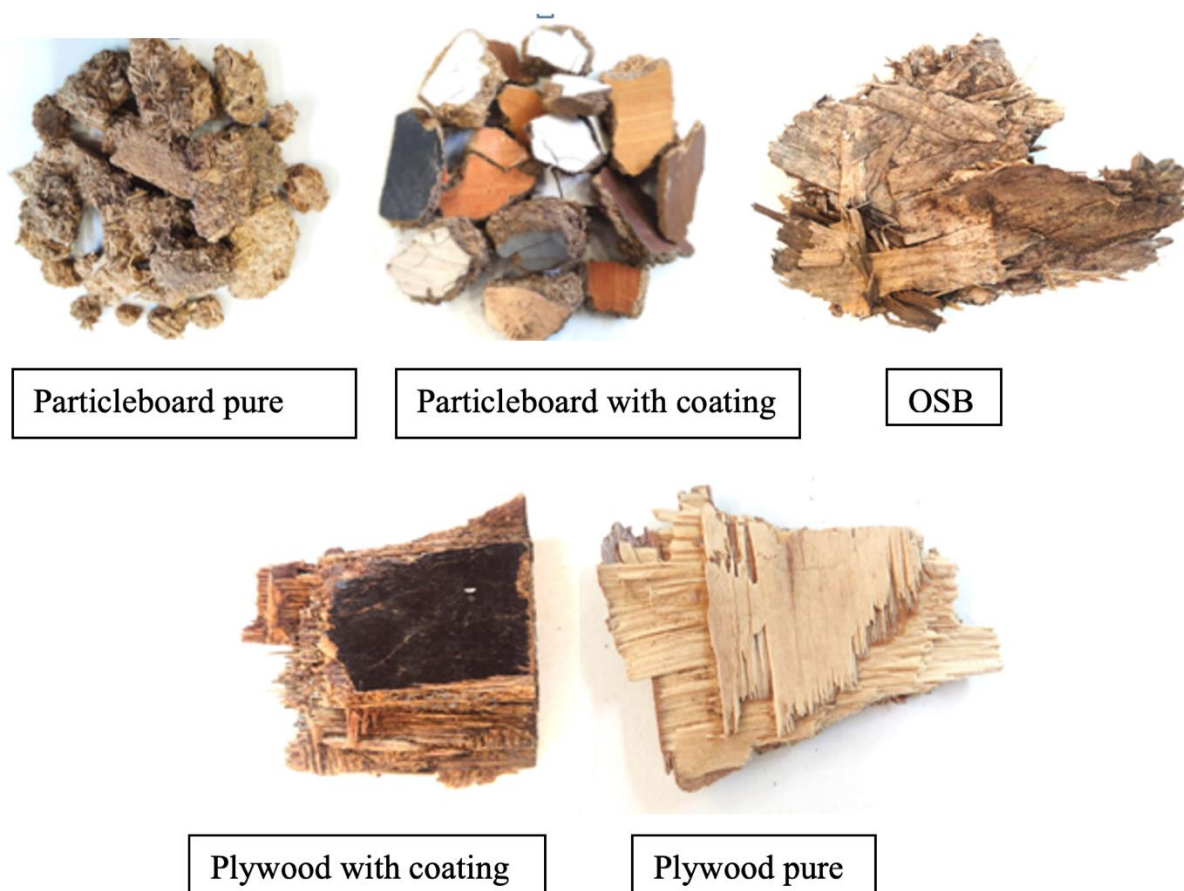


Fig. 2: Examples of the main types of wood-based panel found in the POP fraction

Results

According to the data obtained in the study, the POP fractions of the incoming samples were found to contain 74% Particleboard, 3.8% OSB and 22.2% Plywood. Based on these results, it can be said that the most abundant material in the POP fractions is Particleboard. When categorized as coated and uncoated, the Particleboard coated ratio is 74.6%, and the uncoated ratio is 25.4%. For Plywood, the coated ratio is 31.5%, and the uncoated ratio is 67.5%.

The details will be included in the poster.

Acknowledgements

The authors would like to thank the many people involved in the various wood recycling research projects. EcoReFibre project is funded by Horizon Europe (Call: HORIZON-CL4-2021-RESILIENCE-01) from May 2022 to April 2026.

References

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