

The main scope of the ECOPRESSWOOD project is to develop a “formaldehyde free” wood resin obtained from biodiesel residues (glycerine and fatty acids) which will be used for manufacturing wood panels with formaldehyde emissions at natural wood levels.

Start: February 2014

Duration 3 years

Research for the benefit SME Associations





Ecopresswood project will innovate in three main areas:

1. Development of a bio-based thermosetting resin using glycerin and fatty acids obtained from biodiesel residues as the starting material for its synthesis.
2. Introduction of oxide ceramic nanoparticles (e.g. Al_2O_3 and SiO_2) as additional additives to improve the mechanical properties and moisture resistance of the wood panel
3. Development of wood based panels with formaldehyde emissions at natural wood levels, which will comply with the imminent change in the EU legislation.

Month 23 out of 36. The main results are:

Bio-based resin synthesis achieved. Main properties:

- ✓ Formaldehyde free innovative bio-based resins based on polyacrylics and polyesters.
- ✓ Cost and properties competitive compared to other state of art resins. 1,5 – 3 €/Kg.
- ✓ Mechanical properties of lab-scale particleboards bonded with a bio-based resin compared to boards made under same production conditions with commercial acrylic resins:

Resin	Thickness swelling 24 h % (EN 317)	Internal bond strength N/mm ² (EN 319)
Acrodur 950 L	33 ± 1.65	0.57 ± 0.06
EPW_F1_L	15 ± 0.66	1.09 ± 0.04
Requirements according to EN 312 type P2 (thickness: >6 to 13 mm)	No requirement	0.40



Thanks for your attention

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