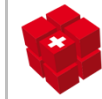


# Construction bio-composites materials



## Empa

Materials Science and Technology

### Description

Isolated via environmental friendly process, organic renewable compounds will be used as high-performance additives for the development of a new series of bio-composites for the construction sector.

### Objectives

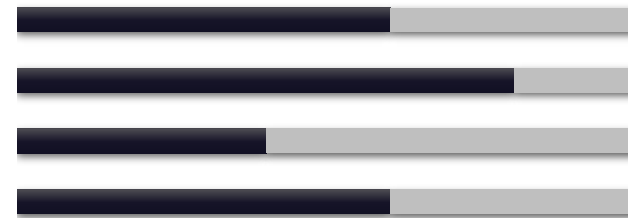
- To carry out a thorough environmental evaluation of products and processes developed, providing quantitative information on the sustainability of the new technologies over their whole life cycle,
- To report the potential environmental impact (inferior energy usage and water needs, raw materials utilisation) derived from using agricultural derived wastes rather than current commercial materials.

### Activities

- Sustainability assessment:
  - Life-Cycle Assessment LCA,
  - Life-Cycle Costing LCC.

### Challenges

- Input data complex to collect
- Technical knowledge required
- Legal & legislation barriers
- Technology readiness level



### Added values

- - 10% material usage,
- 50% bio-based weight in thermosetting nanocomposite,
- 95% bio-based weight in thermoplastic nanocomposite.



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