

RiceHUSK+ – Cementitious Composites with Rice Husk for Prefabricated Solutions of Multilayer Panels and Acoustic Barriers

Summary

The objective of this project is centered on the development of pre-fabricated elements for the construction industry produced from innovative cement-based composite materials (Figure 1) and of high functional value, integrating agro-industrial by-products, such as rice husk, in its composition.

The project intends to deliver solutions: i) with suitable performance but more sustainable, when compared to the competitive solutions, with benefits in terms of thermal and acoustic

requirements; ii) easy production and application; and iii) durability over time.

CERIS participation includes the development of rice husk-based cementitious for the applications with different incorporations rates to achieve sustainable solutions, with the participation in the several tasks of the project: preliminary studies; design of cementitious composites and constructive solutions (Figure 2); prototypes (Figure 3) and experimental validation; and dissemination of the results.



Figure 1. On the left: rice husk; on the centre; mixture at fresh state; on the right: the compactness of the mixture in the mould.



Figure 2. Rice-husk specimens for testing.

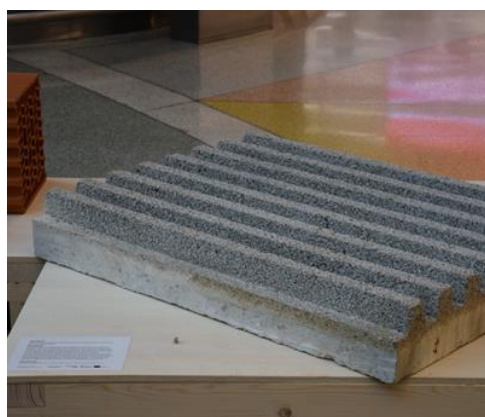


Figure 3. Acoustic barrier.

Project Reference

POCI-01-0247-FEDER-039577 | LISBOA-01-0247-FEDER-039577

Leading Institution

FARCIMAR – Concrete Pre-fabricated Solutions, S. A. (Portugal)

Partners

IST – Instituto Superior Técnico (Portugal), Itecons – Institute for Research and Technological Development in Construction, Energy, Environment and Sustainability (Portugal)

CERIS Principal Investigator

Jorge de Brito
(jorge.brito@tecnico.ulisboa.pt)

CERIS Research Team

Inês Flores-Colen, Rita Nogueira, José Alexandre Bogas, José Dinis Silvestre

Funding

Portugal 2020

Period

2019-2022

Total

695 870.55€

CERIS

192 244.91€

Project Website

<http://www.itecons.uc.pt/projectos/ricehusk/index.php?module=ec&id=875&f=1>