

RiceHUSK+ - Cementitious composites with rice husk for prefabricated solutions of multilayer panels and acoustic barriers (POCI-01-0247-FEDER-039577; LISBOA-01-0247-FEDER-39577, 2019-2022)



Partners: FARCIMAR (Concrete Pre-fabricated Solutions), ITECONS (Institute for Research and Technological Development for Construction, Energy, Environment and Sustainability) and CERIS/IST

IST/CERIS Principal Investigator: J. de Brito

CERIS Research Team: I. Flores-Colen (20%), R. Nogueira, J. A. Bogas, A. Raimundo

Funding: FEDER and PORL (Lisboa 2020, Compete 2020, Portugal 2020)

Total budget: 695.871€ CERIS: 192.245€

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

Period: 01/08/2019-31/07/2022

<https://itecons.uc.pt/services/projects/90>

Summary description: 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 and of high functional value, integrating agro-industrial by-products, such as rice husk, in its composition.

CERIS participation: 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; prototypes and experimental validation; dissemination of the results.

Output: 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.

Illustrations:



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

Indicators: 2 papers in international conferences; one ongoing PhD Thesis - Ana Raimundo; 3 MSc dissertations; 3 research reports.

RICE HUSK+ - Cementitious composites with rice husk for prefabricated solutions of multilayer panels and acoustic barriers (POCI-01-0247-FEDER-039577; LISBOA-01-0247-FEDER-39577, 2019-2022)

1. Travincas, R.; Raimundo, A.; Ahmed, H. H.; **Flores-Colen**, I.; Bogas, A.; Nogueira, R.; Pereira, M. F.; Brito, J. de: “Study of compatibility between rice husk and binders - Experimental programs 1 and 2” (in Portuguese). CERIS DTC 35/**2020** report, Task 2.1, November 2019, IST.
2. Contribution "1st Report of project activities: RiceHUSK+" (in Portuguese), Report related to the time period from 01/01/2018 until 31/12/2020, P2020, Farcimar, IST and Itecons.
3. Raimundo, A.; **Flores-Colen**, I.; Bogas, A.; Nogueira, R.; Brito, J. de: Formulation and optimization of cementitious Composites - experimental program 3” (in Portuguese). CERIS DTC 01/**2021** report, Task 2.2, January 2021, IST.