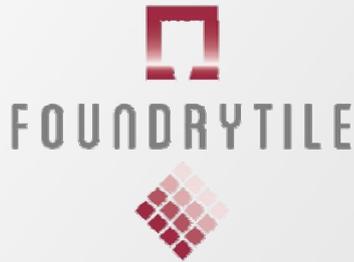


## Valorization of iron foundry sands and dust in ceramic tile production process



The main objective of the LIFE FOUNDRYTILE project is to demonstrate the valorization of iron foundry sands and dust in the ceramic tile production process. The innovative character is provided by the utilization of green and chemically bonded foundry dust and sand in tile production replacing natural raw materials, clay (for red firing ceramic products) and sands (for white firing ceramic products).



### FIFTH CONSORTIUM MEETING

On the 15<sup>th</sup> of November 2017, the fifth follow-up meeting of the project was held in Bilbao, in AFV's facilities, acting AFV as host partner. In the meeting partners updated the work carried out.

As on previous occasions, a summary of the economic-financial part of the project was made, exposing what has been done until the meeting at the expense of feedback from the European Commission of the Mid-Term Report that the consortium presented in September 2017.

### PROGRESS OF ACTIONS

Once the physical separation has been ruled out as pre-treatment for the conditioning of the samples of sands and dusts (does not meet the pre-established carbon organic content requirement: less than 2%) it has been verified that the magnetic separation it is valid to eliminate iron compounds.

Regarding thermal pretreatments, different behaviors have been observed. The selected chemical byproducts require less exposure time than green molding byproducts. It has been achieved the total removal of organic carbon for the chemical molding calcining samples at 600 ° C in 1 hour of exposure. However, for green molding samples, a minimum calcination time of 4 hours is required to ensure that the organic carbon content is less than pre-established 2%.

At present, the consortium is trying to determine where the collection, mixing and pretreatments can take place, prior to send samples to Euroatomizado (Castellón) for the realization of the industrial scale tests (action B.4 of the project). For this, a minimum of two different formulations will be needed, one to formulate a mixture (with materials of all types) without thermal treatment, and the other one, of smaller volume, formulated by thermally pretreated dusts, in order to increase its valorization percentage (as result of action B.3 it is considered that it is not necessary to thermally treat all fractions. Only the treatment of dusts is considered, materials that currently do not have a valorization alternative).

The are already available the first results of the complete life cycle analysis (LCA) of the process in which it is highlighted the environmental benefit derived from the solution developed.



The project will once again be present at Cevisama 2018 and Qualicer 2018, among others.

[www.foundrytile.eu](http://www.foundrytile.eu)

Next consortium meeting:

- Euroatomizado's facilities, Castellón.
- February 2018.



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