Objective

The main objective of the 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 clay ceramic products) and sands (for white clay ceramic products). This way, the project will contribute to the implementation of Waste Framework Directive (Directive 2008/98/EC) following the objectives and goals of the Roadmap for a Resource-Efficient Europe.

The new applications will have three main benefits:

1- Preservation of natural resources.

2- Increase foundry waste valorization.

3- Environmental footprint reduction.

Participants

Coordinator:

CTM CENTRE TECNOLÒGIC – TECNIO

Partners:

Asociación de Fundidores País Vasco y Navarra

ASCER Asociación Española de Fabricantes de Azulejos y Pavimentos Cerámicos

EuroAtomizado Grupo

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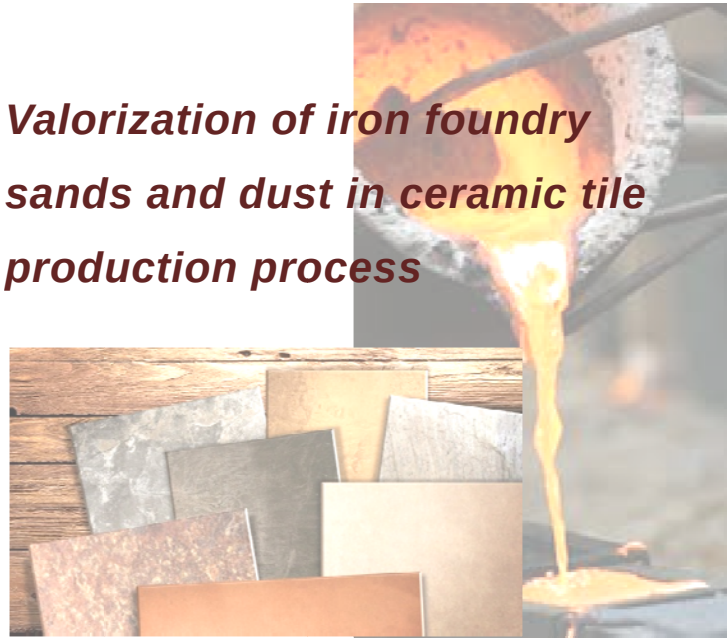
FOUNDRYTILE

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



LIFE14 ENV/ES/000252
LIFE Environment and Resource Efficiency project application
Duration: 2015/09/03 – 2018/08/31

Project cofinanced by the LIFE program of the European Union

Expected Results

- Industrial-scale demonstration of most promising applications using foundry dusts and sands.
- Improvement of byproducts characteristics as a result of different pre-treatments.
- Validation of reuse alternatives at pre-industrial scale.
- Foundry waste characterization data.
- Participation of ceramic companies and foundries along the project.
- Dissemination of the importance of byproducts reuse and promotion of its acceptance by society.
- Dissemination of project experience to different regions and countries in Europe.

The Problem

The environmental problem of this proposal refers to that generated by the current management dusts and sands discarded in the foundry industry, as they suppose a high consumption of raw materials.

The extent of the problem is defined considering that most of the cast products go to landfill, despite the existence of valorization alternatives.

Thus, the FoundryTile project has a double impact. On the one hand management of cast products is improved and on the other, the impact caused by quarries is reduced (directive 2006/21/EC and related) as well as the preparation of these sands on the environment.

Climate Change & Biodiversity

The project can be considered a climate change mitigation project as the activities that will be carried out during it concern the climate change mitigation, adaptation and protection.

The project will result in the preservation of natural resources thus contributing to the reduction of greenhouse gases emissions generated by extractive activities.

Nowadays, parts of these byproducts are disposed in landfill, resulting in a negative impact on biodiversity. Thanks to the valorization of this products, the current extraction of raw materials. will decrease and therefore, terrestrial and aquatic habitats as well as associated biodiversity in mining areas will be benefit.

Project Structure

Actions	Description
A.1	Foundry and ceramic requirements characteristics compilation.
B.1	Selection and characterization of casting products.
B.2	Evaluation of pre-treatments for the conditioning of foundry products.
B.3	Ceramic tiles with foundry products production tests at preindustrial scale.
B.4	Trials on an industrial scale.
C	Monitoring of the impact of the project actions.
D	Public awareness and dissemination of results.
E	Project management and monitoring of the Project process.

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