Start October 1, 2017
Project duration 36 months
Total budget 1,289,434 €
EU Contribution 773,660€

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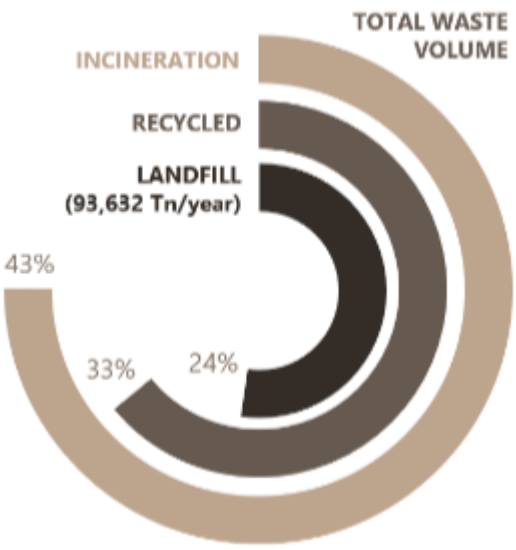
The LIFE-Repolyuse Project has managed to develop a new construction material (gypsum ceiling tiles), which incorporates polyurethane (PUR) waste from different industries into its mix.

The regulatory Framework for the case of the waste managed in the LIFE-REPOLYUSE Project is the following:

• Clean PU foam cuttings (by-products). Order APM/397/2018, of 9th April.
• Polyurethane waste with other possible waste, destined for recovery operations. Law 22/2011, of 28 July, on waste and contaminated soil.

In Europe, the market for registerable ceiling tiles is approx. 3.5 million m2/year. And every year 93,632 tons of polyurethane foam waste is deposited in landfills. The exhaustive analysis of the location of generating plants and prefabricated industries guarantees the flow of generating-manufacturing waste in all cases.



Coming soon

In order to disseminate the project, **on September 24th a demonstration seminar of the 3 project pilots will be held in Webinar format**.

It is aimed at:

• Prefabrication companies with special interest in plaster companies.
• Waste management companies and generators of waste.
• Construction companies, developers, schools of architects and engineers.
• Researchers from other universities, technology centres, public administrations, NGOs linked to the sector

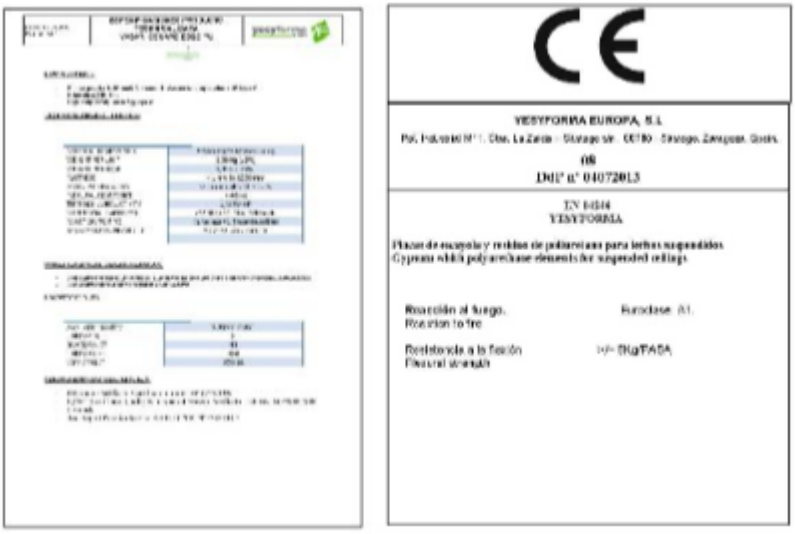
Project's progress

Characterisation of polyurethane waste

To extend the possibilities of replication of the project, a study is being carried out on a new polyurethane waste, from the scrapping of refrigerator panels by the company EWASTE in the Canary Islands. In this way, the catalogue of characterization and study of processing parameters has analysed seven wastes.

Product manufacture

The new material has been tested in accordance with the sector's regulations to certify its technical viability, and it has the CE mark. The new product has been protected through a Utility Model owned by the UBU, exclusively licensed to the company YESYFORMA.



Pilot test in buildings of different typology

The new tiles (gypsum-polyurethane) are already placed in the three buildings destined to Demo-site (one is a new building and the other two are being refurbished). Environmental monitoring of the new tiles is being carried out, in comparison with conventional tiles, in terms of comfort, in collaboration with the State Meteorological Agency (AEMET). The monitoring area is 200 m2 at the Araba (Miñano) Technology Park in Álava (Spain), 350 m2 at the Demo-site of the Higher Polytechnic School in Burgos (Spain) and 400 m2 at the Sir John Laing Building at the University of Coventry (United Kingdom). In the near future, the energy simulation of the demo sites will be carried out to check the energy behaviour of the tiles in the building envelope.

HIGHER POLYTECHNIC SCHOOL Burgos (Spain)

Technology Park of araba MIÑANO, Álava (Spain)

SIR JOHN LAING BUILDING AT THE COVENTRY (UK)

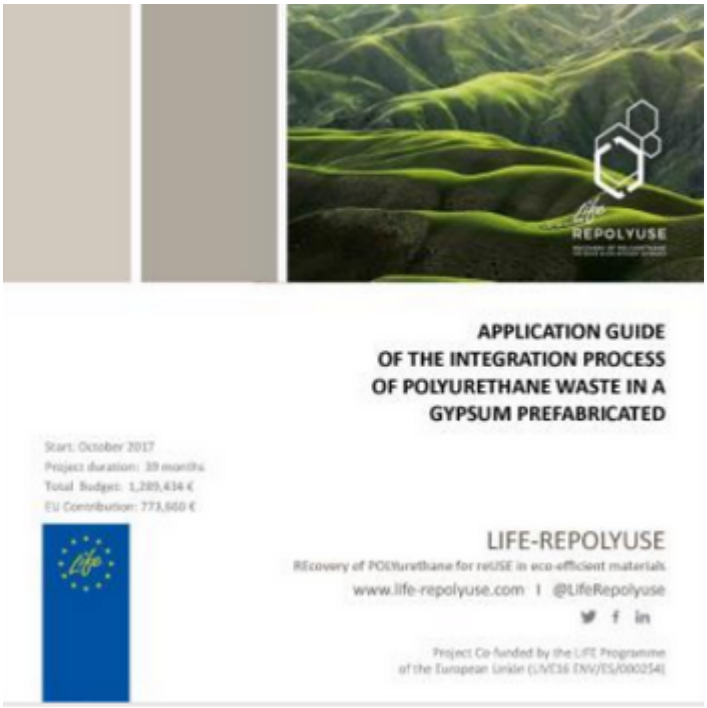
Life Cycle Analysis (LCA)

The Life Cycle Analysis of the LIFE-REPOLYUSE tile has been carried out by means of a comparative analysis with a standard tile manufactured by the same company Yesyforma, according to the ISO 14040:2006 and ISO 14044:2006 Standards. At present, work is being done on the development of the product's Ecolabel. The manufacture of the new LIFE-REPOLYUSE product could result in a saving in water (25.71%) and a reduction in gypsum consumption (45.45%) in raw materials. The new material, compared to a standard product, has significant improvements in CO 2 savings (19.32%) and lower energy consumption in its manufacturing processes (16.6%).

Publications

The "Application guide of the integration process of the polyurethane waste in a gypsum prefabricated" has been published. This document aims to show all those interested the process used in this project, so that it can be easily understood and replicated. The objective is to document the process of integration of the waste, so that the manufacturers of prefabricated products have sufficient tools to understand the simplicity of the process and can consider the application of this new technology in their companies

https://life-repolyuse.com/en/project-documents/



Events

6TH PROGRESS MEETING LIFE-REPOLYUSE

The European Project Life-Repolyuse (REcovery of POLYurethane for reUSE in eco-efficient materials) held its 6th progress meeting virtually. In addition to the project partners (UBU, TECSA, UBU and YESYFORMA), the external monitor, Estíbaliz Gabilondo (from the LIFE IDOM-NEEMO team) was present at the

meeting. The project is in its final stages, so the meeting was able to show the results …

Read more.

TALKING ABOUT SUSTAINABLE BUILDING MATERIALS WITH VERONICA CALDERON AND SARA GUTIERREZ

The Scientific Culture and Innovation Unit (UCC+i-UBU) of the University of Burgos interviews two of themembers of the GIIE that coordinates the Life-Repolyuse project.

Watch video

LIFE-REPOLYUSE in 3rd RILEM CONVENTION AND SPRING CONFERENCE

The Life-Repolyuse Project was presented at the 3rd RILEM Convention and Spring Conference, RSCC2020, organized by the University of Minho, in Guimarães, between March 10 and 14, 2020. The event combines the meetings of RILEM's permanent committees (TAC, DAC, DEV, Bureau), with several meetings of RILEM's technical committee (TC). The program is closely related to the most critical challenges facing …

Read more.

Students from 3rd grade of Infant from the School Miguel Delibes learn about the European project LIFE-REPOLYUSE

A group of 74 students from the 3rd grade of infant the Miguel Delibes school, visited the Milanera Campus of the Escuela Politécnica Superior to learn about the work being done by the Building Engineering Research Group (GIIE) of the University of Burgos, within the European LIFE REPOLYUSE Project for Recovery of POLYurethane for reuse in eco-efficient materials. They participated in two workshops, one …

Read more.

News

The European Project Life-Repolyuse advances the development of new construction materials

Posted on June 17, 2020 by ubu.es

Students from 3rd grade of Infant from the School Miguel Delibes learn about the European project LIFE-REPOLYUSE

Posted on February 14, 2020 by ubu.es

Partners

ubu.es I exergy.uk.com I grupoacs.com I yesyforma.es

Stakeholders