
Demonstration of the Applicability and Performance of Fire Resistance

Façades developed from Construction and Demolition Waste (CDW)

Invitation

You are kindly invited to the Demonstration of the Applicability and Performance of the Fire Resistance Façades developed from the Construction and Demolition Waste (CDW).

The event is organized in the frame of the “DEFEAT - Development of an Innovative Insulation Fire Resistant Façade from the Construction and Demolition Waste” project.

The scope of the event is to present a pilot application of the innovative materials developed in the frame of the project and demonstrate their fire-resistant properties.

The DEFEAT Project (INTEGRATED/0918/0052) is co-funded by the European Regional Development Fund (ERDF) and the Cyprus Government, through the RESTART 2016-20 framework program of the Cyprus Research & Innovation Foundation.

The event will be held on **Wednesday, 29 March 2023**, from **10:00 am – 12:30 pm**, at the premises of **RECS Engineering** (Location pin: <https://goo.gl/maps/9aE9dccpfBriyrmq9>)

A detailed agenda of the event is summarized below.

Agenda

Date and Time: Wednesday, 29/03/2023, 10.00 – 12:30

Venue: RECS Engineering (<https://goo.gl/maps/9aE9dccpfBriyrmq9>)

10:00 – 10:05 Welcome

Dr Demetris Nicolaidis, Project Coordinator, Frederick Research Center

10:20 – 10:40 Project Overview, Methodological Concepts and Practical Challenges

Dr Demetris Nicolaidis, Project Coordinator, Frederick Research Center

10:40 – 11:00 Mechanical Properties of Compact & Foamed Geopolymers

Mr. Ponsian Robert, PhD Candidate, Frederick Research Center

11:00 – 11:20 Production & Challenges of the Composite Material

Mr. Alexandros Fikardos, Researcher, RECS Engineering

11:20 – 11:50 Demonstration of the Applicability and Performance of the Fire Resistance Façades

11:50 – 12:00 Discussion

12:00 – 12:30 Reception

End of Workshop

Short Description of DEFEAT Project

Construction and Demolition Waste (CDW) approximately represent one third of the total waste generated by economic activities and households, which in EU-28 are about 2.5-3.0 billion tonnes per year. In several publications, it is reported that the Construction and Demolition Waste generation amount has been increased by the impressive percentage of 300% between the years 2003 – 2013. In Cyprus, the management of CDW appears to be underperforming, despite the fact that a comprehensive legislative framework concerning their management is in place since 2011.

In addition, over the last decade the construction activities in Europe were accelerated, as well as the rehabilitation activities for energy saving, as a general need to facilitate accommodation. According to a study carried out by the European Union, the high rate of household energy consumption over the past twenty years (250-300 Mtoe) is attributed to building requirements for heating, cooling and ventilation, due to unsatisfactory thermal insulation.

Further, only in recent years has the safety of such infrastructures gained increasing attention, particularly the issue of fire. This transformation in the mentality is attributed to a series of large fires that have taken place in the last years, which led to human casualties, major structural damages and serious consequences for the regional economies. It has been reported that the fire incidents in Europe have been increased by the tragic percentage of more than 300% between the years 2010 – 2015. At the same time, the current market thermal insulation solutions consist of materials that are either combustible, or undergo spalling phenomena in case of fire incidents, or materials which they have high cost, or materials, the production of which results in high environmental impact.

The DEFEAT project tackles the above-mentioned barriers by developing in a pilot scale, and through detailed experimental study, an innovative separation method of CDW, as well as a composite material generated also from the CDW, which has low thermal conductivity, satisfactory mechanical properties, and at the same time is fire resistant. The produced material can be applied as a façade, either on existing or new construction projects.

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