



TEMA Newsletter

AGO 2016 – DIC 2016

RESEARCH TEAM

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Mariano González Cortina
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Carmen Viñas Arrebola
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Welcome to the 6th issue of TEMA newsletter where you can find an update of all the research activities carried out during the last seven months. Enjoy reading this Newsletter!!

Accepted Journals

G. García; M. González; F. Magdalena; M. del Río. "Advances in the use of metacaolin for improving portland cement mortars' properties" (Avances en el uso de metacaolin para la mejora de las propiedades de los morteros de cemento tipo portland). DYNA Journal. In press

N. González, E. Martínez, M. del Río, O. Liébana. Packaging waste reduction in construction sites: eco-redesign of cardboard boxes. In press

A. Pedrosa, M. Del Río. Comparative scanning electron microscopic study on degradation of plasticized polyvinyl chloride waterproofing membrane in different conditions. In press

Published Journals

R. Talero, C. Arámburo, M. González, M.I. Sánchez, A. Blázquez, M. Frías, C. Pedrajas. "Sulfate resistance in OPC and SRPC containing calcined paper sludge waste: ettringite or thaumasite formation" ASCE's Journal of Materials in Civil Engineering 04016222. Sep 2016
Doi: 10.1061/(ASCE)MT.1943-5533.0001714

I. Oliver-Faubel, P. Villoria Sáez, B. Fuentes Giner, M.del Río Merino. "BIM en el grado de edificación: la experiencia de la Escuela Técnica Superior de Edificación de la Universidad Politécnica de Madrid" Spanish Journal of BIM. Nº 16/01. Oct 2016

PATENTS

I. González; M. Del Río; F. Fernández PCT/ES2016/070864 "Procedimiento para obtener una chapa de titanio con actividad fotocatalítica" International Patent (Procedure to obtain a titanium plate with photocatalytic activity)

J. Santa Cruz; C. Porras. Sistema de doble cámara con dispositivo de control de flujo para ventilación de fachadas. (Dual camera system with a flow control device for ventilated façades) Under evaluation

Current Research Projects

2014-2017 "W2R: De residuos a recursos" Ministry of Economy and Competitiveness

2012-2016 "Trigger" funded by FP7.

2015-2016 "Peritaje edificio de viviendas" (Residential Building Assessment). Private funding

2016-2017 "Dictamen pericial de cuantificación de mano de obra en las obras de construcción" (Manpower quantification assessment in construction). Private funding

TEMA @ THE ECODESIGN COMPETITION

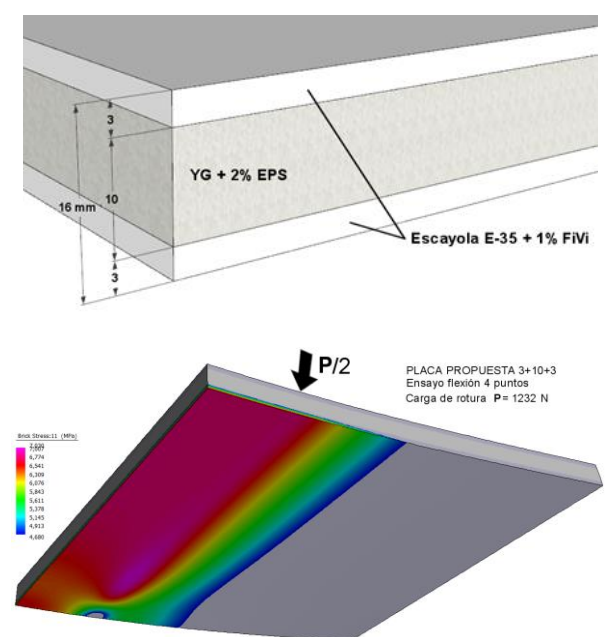
The first edition of the Ecodesign Competition took place on Nov 29 during the National Congress of the Environment (CONAMA2016) in Madrid. From all of the proposals presented to de competition, seven were selected to be presented at the conference and judged by the jury. Ecodesign for waste prevention was the main axis of all the projects that were presented. Building materials, home appliances and soft drinks manufacturers, showed their eco-design proposals explaining their improvements, emissions, water and waste reductions during their manufacturing and transportation.

Together with the manufacturers of building materials, Jaime Santa Cruz presented a lightweight false ceiling plate --made with expanded polystyrene (EPS) waste-- as an eco-designed product. Jaime presented to the jury of the competition a homogeneous thickness plaster plate of 16mm with a sandwich configuration. The proposed plate can be used for false ceilings and involves a series of improvements --not only environmentally but also technically-- compared to a currently used plasterboard of the same size (60x60cm):

1. A reduction of 16.07% of the total weight.
2. A saving of 16.06% of gypsum / plaster raw material used in its manufacture
3. The amount of EPS waste used is aproximately 10.21 kg per 100m² house (4.08 liters / m² of plate)
4. Increase of flexural strength + 40%
5. Reduction of rigidity around 4.4%.

The jury's decision was in favor of the home appliance manufacturer who redesigned the packaging of its products by removing tons of polyurethane from the market, and the attendees election was for a soft drink maker who encouraged a collaborative economy.

Congratulations to the winners and we will continue working to win the next edition!!



Conferences

P. Villoria Sáez; J. Santa Cruz Astorqui; M. del Río Merino. "Sustainable composites manufactured with construction waste generated in building retrofitting works". VII Encuentro latinoamericano de Gestión y Economía de la Construcción (VII Elagec) 14-16 Nov 2016, Bogotá (Colombia)

M. del Río Merino; J. Santa Cruz Astorqui; P. Villoria Sáez; C. Porrás Amores "From demolition waste to resources for building construction". VII Encuentro latinoamericano de Gestión y Economía de la Construcción (VII Elagec) 14-16 Nov 2016, Bogotá (Colombia)

A. Rodríguez Sanchez; C. Viñas Arrebola; S. Varela; M. González Cortina "Diseño experimental, monitorización y análisis del comportamiento térmico del sistema de aislamiento térmico por el exterior (sate) en la rehabilitación de un edificio de viviendas". VII Encuentro latinoamericano de Gestión y Economía de la Construcción (VII Elagec) 14-16 Nov 2016, Bogotá (Colombia)

I. Oliver-Faubel, B. Fuentes Giner, P. Villoria Sáez and M. del Río Merino. "BIM methodology implementation in the school of building construction at the technical University of Madrid" International Conference of Education, Research and Innovation (ICERI) 14-16 Nov Sevilla Pp: 7933-7940 ISBN: 978-84-617-5895-1; ISSN: 2340-1095 doi: 10.21125/iceri.2016.0814

J. Santa Cruz Astorqui; M. del Río Merino "Reinforcing systems on the bottom side of timber slabs " (Sistemas de refuerzo de forjados de madera por su cara inferior) I PRE CONPAT Spain, 2 Dic 2016, Madrid

MINEA Action COST meeting @ Technische Universität Wien

TEMA research group attended the workshop "Recovery technologies for C&D waste" as part of the **COST Action "Mining the European Anthroposphere (MINEA)"**, which took place on November 15-16 at the University of Vienna.

The workshop was a big success, providing an opportunity to discuss about innovative recovery and recycling technologies for CDW flows in buildings and infrastructure across European regions. The workshop joined experts --from universities, research centers, industrial organisations, etc-- from 11 different countries. This provided a unique opportunity to discuss and evaluate the current CDW recovery challenges and opportunities.

Next working group meeting will be on 23-24 February 2017 in Ljubljana.

For more information please visit: <http://www.minea-network.eu/index.php>



Upcoming Events



III International Congress on Sustainable Building and Eco-Efficient Solutions (CICSE) to be held in Seville on March 2017. For more information please visit:

<http://congreso.us.es/sostenible/>



HISER International Conference to be held in Delft on June 2017. Abstract submission 31st January. For more information please visit:

<http://www.citg.tudelft.nl/index.php?id=126989&L=1>

OUTGOING & INCOMING VISITING students

We will also like to welcome **Benedetta María Martino** from Università di Roma La Sapienza who joined TEMA last September and **Dario Lepore** from the University of Naples who will join us on January.

CONSTRUTEC 2016 - International Trade Show for Construction Materials and Building Solutions

TEMA attended CONSTRUTEC 2016 fair. We discovered new products, technologies and services, and we attended some workshops and parallel events, which are a magnificent source of information about new trends and developments in the sector.



News

Antonio Rodríguez, Mariano González, Mercedes del Río and Paola Villoria were invited as Evaluation committee members of several PhD thesis at UPM, Universidad de Sevilla and Universidad de Extremadura, Sep-Dic 2016.

TEMA joined the Best Building Cluster (Clúster Mejores Edificios) Dic 2016. Web: <http://mejoresedificios.com/>

Mariano González Cortina was invited as a member of the Evaluation committee of an international PhD thesis at the Trinity College of Dublin, Nov 2016.

Paola Villoria participated as a member of the Scientific Committee at the National Congress CONAMA 2016 held in Madrid, Nov 2016.

Mercedes del Río and Paola Villoria participated as a member of Working Group 1 at the Action COST CA15115 in Vienna, Nov 2016.

TEMA joined the working group 1 of MINEA COST ACTION Nov 2016

Antonio Rodríguez and Mercedes del Río participated as members of the Scientific Committee at the VII Encuentro latinoamericano de Gestión y Economía de la Construcción (VII Elagec) and II Seminario Internacional de Innovación en la Gestión de la Construcción (II SelN²Co) held in Bogotá, Nov 2016.

Mercedes del Río has been a member of the External Evaluation Committee for accreditation under the Program for Verification, Modification, Monitoring and Accreditation of Proposals for Official University Degrees. Barcelona Nov 2016

Mercedes del Río participated as a member of the Serra Hunter Scholarship Committee

Mercedes del Río is a member of the Evaluation Committee for the accreditation of Professors at ANECA

MORE INFORMATION

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