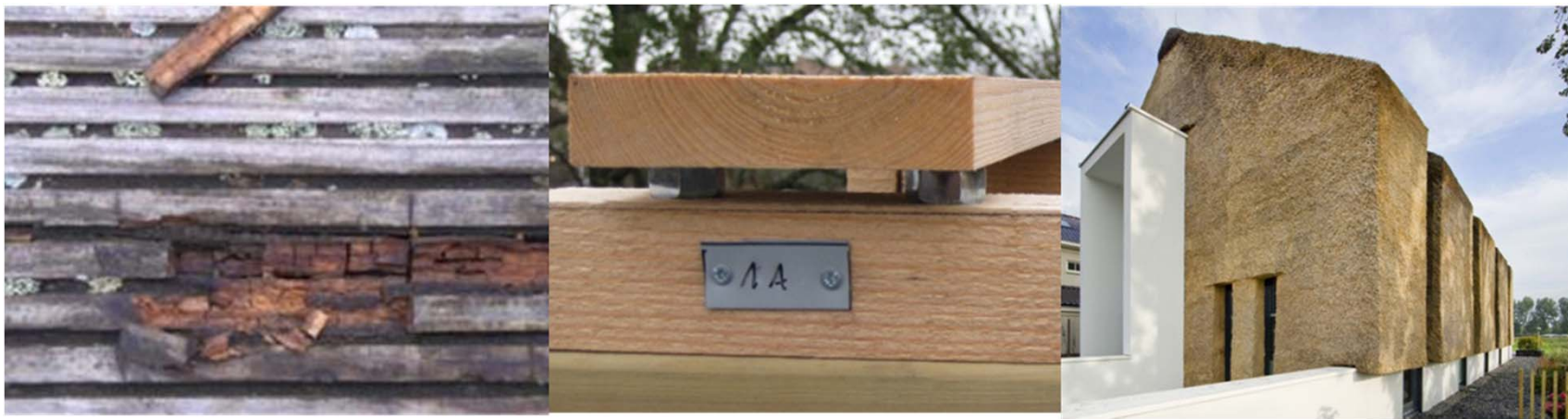


Ongoing R&D projects in COST member countries

September 2013



From Spain



COST FP1303: Performance of bio-based building materials

Country

September 2013

FLAG to be
added

Participating Group 1
Participating Group 2
Participating Group 3
Etc

*These should be groups active in your country, not
just your own groups activities.... We want to learn
about what is going on beyond the MC group*



COST FP1303: Performance of bio-based building
materials

Country

Research institute/uni/company

September 2013

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added

Participating Group 1: CICYTEX/CICMCResearch Center for Cork, Wood and Charcoal
Ongoing projects:

Descriptions of ongoing projects / previous activities

Details of results etc

***Valorisation of cork sector in Extremadura: cork-building (2012-2014)**

In recent years, considerable work has been done on lightweight concrete traditionally using inorganic materials. The cork lightweight concrete may be regarded as an useful addition to the existing lightweight concretes, due to its valuable properties. For instance, cork lightweight concrete has one of the lowest densities comparable with the range of densities obtainable with aerated concrete. The main goal of this research project is to optimize the preparation and characterization processes of cork lightweight concrete as well as to transfer the results obtained so that companies sourced in Extremadura may profit from the research work performed by local institutions as the University of Extremadura, CICMC and INTROMAC (institute for rocks and building of Extremadura).

Keywords: cork; concrete; concrete lightening.

***Previous project**

NEW MANUFACTURING TECHNIQUES IN THE AGGLOMERATE CORK INDUSTRY - IMPROVEMENT OF THE PROPERTIES DURING THE STABILISATION / POLYMERISATION AND CUTTING PROCESSES. From 1998-12-01 to 2001-02-28

An agglomerate cork is obtained by combining small cork particles, polyurethane, latex and wax. This mix is extruded and compacted, then it is homogenised in a heat chamber. The moisture contained in the raw materials plays a decisive role in the proper cohesion of the mixture. The main objectives of this project is to develop an adhesive which improves the properties of the agglomerate phase, rated in 15 days, which will raise the cutting process. Moreover, the formulation of the adhesives which will be mixed the original cork particles to produce the agglomerate. This will allow: a) To reduce from 15 days to a few hours the time necessary to stabilise the mix cork adhesive. b) To reduce from 3 4 mm. to 1.2 mm. the tolerance necessary during the cutting process. c) To produce an annual saving of 500 Kecu/year in the 25 SMEs of the European agglomerate cork sector, reducing the waste material without useful application and without any value in the market, and some environmental benefits of incalculable value. d) To improve the production process in the agglomerate cork industries. e) To reduce the storage of the mix cork adhesive until it is stabilised..Project reference: BRST985433. Programme acronym: BRITE/EURAM 3

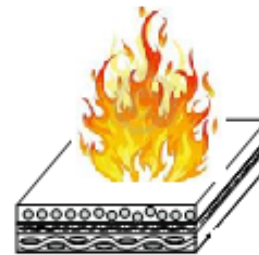
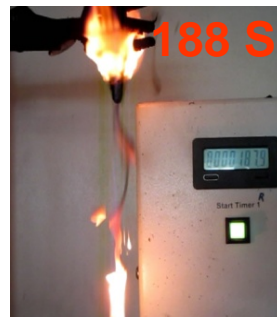


COST FP1303: Performance of bio-based building
materials

Participating Group 1: IMDEA Materials Institute

Ongoing projects:

- To develop new generation high performance fire retardant epoxy-based adhesives which used in wood products.
- To develop high performance wood plastic composites (WPC) via thermal compounding
- To develop new fire retardants for WPC and/or Wood Products
- To develop new nanotechnology to kill fire
- To develop multifunctional modifiers for the wood particles



Country

Research institute/uni/company

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added

Participating Group 2

AITIM (Research Association of Woodworking Industries)

AITIM (Wood Industry Research Association of Spain): this non-profit association has been bringing companies working in the wood industry together since 1962, united by the desire for developing their products technologically, and for certifying their quality. The AITIM Quality Seal aims to certify that the products manufactured and services ...



COST FP1303: Performance of bio-based building materials

Specialist equipment

September 2013

FLAG to be added

Provide information on state of art equipment in your country (and where it is based)

List equipment that is important to the development of collaborative activities in this Action

CICYTEX/CICMC: scientific support for wood sector, technical reports and analysis. Contact with Research institutions related with bio-based building materials. Wood tests

AITIM: certificates of quality, technical reports, training courses

IMDEA:

Fire testing (Limiting oxygen index, verticle burning testing, microscale combustion calorimeter, cone calorimeter, simulated Single burning item, FTIR-TGA, etc).

Processing: Two extruder , hot plate press, injection machine for wood plastic composites (WPC)

Fire retardant design and synthesis: environmentally friendly fire retardants design and synthesis, fire retardant coating, etc.

Fire Facilities



Cone Calorimeter



Limiting Oxygen Index



UL94 Test



**Microscale combustion
Calorimeter**

Polymer Processing



Thermoset Processing



Hot-plate Press



Thermoplastics Processing



Injection molding machine

Characterization



FTIR-TGA



DSC



TS test



DMA



Charpy Impact Tester



AFM



SEM



C-Scan

Specialist equipment

September 2013 FLAG to be added

	Properties						Environmental				
INSTITUTE	Natural Durability	Moisture / sorption studies	Resistance to mould	Fire resistance / reaction to fire	Insect /termites / pests	Dimensional stability	Life Cycle Assessments	Whole Life evaluations	Product accreditation	Emission testing	Environmental Product Declaration (EPD)
CICYTEX/CICMC		X				X					
AITIM	X					X	X		X		
IMDEA				X							

Specialist equipment

September 2013
FLAG to be added

INSTITUTE	Laboratory tests						Field tests				
	Natural Durability	Mould resistance	Insect /termite testing	Leaching / weathering	Sorption studies	Dimensional stability	In ground contact tests	Out of ground contact tests	Natural weathering	Surface performance / coatings	Moisture data logging
CICYTEX/CICMC					X	X					X
AITIM				X		X					
IMDEA											