



SESBE



1st August 2013 – 31st January 2017

Coordinator: CBI Betonginstitutet AB

The ITB is among the 12 partners of the SESBE Project.

Project

objectives:

The overall objective of this project is to develop smart façade components, which are more light-weight, thinner and multifunctional as existing solutions. In order to reach these objectives, nanomaterials and – technology are employed. By using nanomaterials and technology, the following objectives can be reached, which make the façade components ‘smart’:

- Increasing energy efficiency
- Increasing fire resistance of materials
- Implementing surface functions of the façade elements
- Gaining cost efficiency and an affordable price of the façade elements by using cost effective raw materials and cost saving technologies

Technical objectives:

1. The weight of the sandwich elements shall be reduced by 50 to 60% of existing sandwich panels of concrete. This will be realized by using FRRPC instead of standard reinforced concrete as layer material.
2. The thermal conductivity of the new insulation layer shall be lowered by 15% in respect to EPS and by 25% in respect to mineral wool. This will allow a reduction of thickness of the insulation layer by 20%.
3. The total reduction in volume of concrete and insulation used shall be between 50 and 70% with the new sandwich panels. This is due to the reduced thickness of the FRRPC and the insulation material.

4. The content of volatile organic compounds (VOC) will be drastically reduced by using inorganic components. There are only few organic components used in the façade system. These concern essentially the sealing tape. The material will be used in low volumes and mostly applied in the exterior.

The work packages within the project:

WP1 Financial and administrative management

WP2 Design of materials for façade elements

WP3 Functionalizing materials

WP4 Component development and performance

WP5 Design criteria and specifications for panel elements

WP6 Dissemination, exploitation and training

Total Project Value: 4 948 165 euro



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