

Behavior of the Composite Lightweight Concrete

Authors

S Bouaziz, Kamal Ait Tahar

Publication date

2012

Conference

Applied Mechanics and Materials

Volume

146

Pages

39-50

Publisher

Trans Tech Publications Ltd

Description

The use of the lightweight concrete in the so wide field of construction currently makes important great strides considering their threshold of mechanical performances. The use of the lightweight materials such as the hemp, the sawdust, the modified polymers increase their applications. This study which wants to be an innovation in the field them construction materials consists in proposing an new approach of realization of polypropylene grains coated to thwart the lightweight phenomenon of increase of the grains in the matrix concrete of the cylinder. This technique makes it possible in addition to ensure the homogeneity of the matrix concrete and to thus increase the mechanical resistances. This study comprises a packed experimental investigation and a mathematical modeling of the thermal phenomena. The obtained results put forward the advantages of this technique which fulfil the requirements of sustainable