

Mechanical Characterization of Extrudable Foamed Concrete: An Experimental Study

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Abstract : This paper is focused on the mechanical characterization of foamed concrete specimens with protein-based foaming agent. Unlike classic foamed concrete, a peculiar property of the analyzed foamed concrete is the extrudability, which is achieved via a specific additive in the concrete mix that significantly improves the cohesion and viscosity of the fresh cementitious paste. A broad experimental campaign was conducted to evaluate the compressive strength and the indirect tensile strength of the specimens. The study has comprised three different cement types, two water/cement ratios, three curing conditions and three target dry densities. The variability of the strength values upon the above mentioned factors is discussed.

Keywords : cement type, curing conditions, density, extrudable concrete, foamed concrete, mechanical characterization

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