

Effect of Clay Brick Filler on Properties of Self-Compacting Lightweight Concrete

Authors : Sandra Juradin, Lidia Karla Vranjes

Abstract : The environmental impact of the components of concrete is considerable. The paper presents the influence of ground clay brick filler on the properties of self-compacting lightweight concrete (SCLC). In the manufacture and transport of clay bricks, product damage may occur. The filler was obtained by milling the damaged clay brick and sieved under the 0.04 mm size. The composition of each of SCLC mixture was determined according to the CBI method and compared with EFNARC (European Association) criteria. Self-compacting lightweight concrete has been tested in a fresh (slump flow method, visual assessment of stability, T50 time, V-funnel method, L-box method and J-ring) and hardened state (compressive strengths and dynamic modulus of elasticity). Mixtures with this filler had good results of compressive strength, but in fresh state the mixtures were sticky. All results were analyzed and compared with previous studies.

Keywords : CBI methods, ground clay brick, self-compacting lightweight concrete, silica fume

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