

عنوان مقاله:

Mitigate autogenous shrinkage in high (ultra-high) performance concrete – application of rice husk ash

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خلاصه مقاله:

As an agriculture waste, rice husk ash (RHA) has been used a lot in construction industry to replace Portland cement. The main advantages of using RHA are the decrease of materials costs due to cement savings, environmental benefits related to the disposal of waste materials and the reduction of carbon dioxide emissions. In this paper, the application of RHA is extended to mitigate their early age autogenous shrinkage of high (ultra-high) performance concrete. The influence of particle size of RHA on the efficiency of mitigation of autogenous shrinkage and the water movement in the internal pore structure of RHA are studied experimentally. The autogenous shrinkage, relative humidity and water absorption of RHA are measured. Experimental results show that by adjusting the RHA particle size, the relative humidity inside UHPC increases and the autogenous shrinkage, caused by self-desiccation, were reduced effectively.

کلمات کلیدی:

rice husk ash, autogenous shrinkage, relative humidity, high performance concrete

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