

# Reuse of refractory brick wastes (RBW) as a Supplementary cementitious material in a concrete

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## Description

The main purpose of this study is to evaluate the reuse of refractory brick wastes (RBW) as a supplementary cementitious materials (by a total replacement of silica fume) to produce a new concretes; namely a high performance fiber-reinforced concrete (HPFRC). This work presents an experimental study on the formulation and physico-mechanical characterization of high performance fiber reinforced concretes based on three types of refractory brick wastes. These were recovered from the float glass industry (Mediterranean Float Glass) after their use in the oven basin (ied they are considered waste unit). Three compositions of concrete (HPFRC) were established based on three types of refractory brick wastes (finely crushed), with the dosage of each type of bricks is kept constant and similar that dosage of silica fume used for the control concrete. While all the other components and the water/binder ratio are maintained constant with the same quantity of the superplasticizer. The performance of HPFRC, were evaluated by determining the essential characteristics of fresh and hardened concrete. The results obtained showed that refractory bricks finely ground have the potential to be used as cementitious material or additions for concrete manufacture.