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The combined effect of recycled aggregate implementation and cement overdosage on the durability properties of high performance concrete

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Since awareness of sustainable development, the construction industry has been searching for a way to reuse their wastes. The use of recycled aggregates (RA) in concrete is an interesting alternative. RA are composed of natural aggregates (NA) surrounded by an old mortar, which makes them more porous, lighter and more water absorbing compare to NA. The substitution rate of NA by RA plays a major role in the properties of concrete. Of course the quality of these aggregates will determine the strength of the concrete. The use in concrete of these RA should decrease its mechanical performances. The goal of this internship is to see if it has the same effect on the durability properties. Chloride diffusion, water absorption and carbonation experiments have been carried out in order to assess the feasibility of such a project.

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