

PETROGRAPHIC CHARACTERIZATION VS. LABORATORY TEST METHODS APPLIED TO GRANITIC AGGREGATES

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Abstract

A large number of Portuguese concrete structures were built in the 1960-70's with granitic aggregates, one of the main rock types used in the construction industry. Some of the structures have recently started to exhibit signs of deterioration due to alkali-silica reactions.

It has been verified that the classification of granitic aggregates according to the national standards regarding the petrographic analysis and also to the ultra-accelerated mortar-bar test (ASTM 1260 or RILEM AAR-2) does not always agree with the performance of this type of aggregates in other laboratory tests and in field structures.

A comparison of the results obtained for the first three samples of granitic aggregates according the different methods is presented. An attempt is made to point out the main advantages and limitations of each test method in what concerns granitic rocks.

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