

## Effect of internal curing by using superabsorbent polymers (SAP) on autogenous shrinkage and other properties of a high-performance fine-grained concrete: results of a RILEM round-robin test

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**Abstract** The article presents the results of a round-robin test performed by 13 international research groups (representing fifteen institutions) in the framework of the activities of the RILEM Technical Committee 225-SAP “Applications of Superabsorbent Polymers in Concrete Construction”. Two commercially available SAP materials were used for internal curing of a high-performance, fine-grained concrete in combination with the addition of extra water. The

concrete had the same mix composition in all laboratories involved but was composed of local materials. All found a considerable decrease in autogenous shrinkage attributable to internal curing. Also, with regard to the shrinkage-mitigating effect of both particular SAP materials, the results were consistent. This demonstrates that internal curing using SAP is a robust approach, working independently of some variations in the concretes’ raw materials, production process, or measuring technique. Furthermore, the

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