



Pore space characteristics vs. stress-strain markers: two contrasting approaches on how to predict durability of porous natural stone

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Pore space characteristics, specifically its textural properties derived from mercury porosimetry present useful data that are often employed as one of the proxies for the evaluation of the durability of porous construction materials, specifically of natural stone or bricks. Interconnected pore spaces present pathways for migration of moisture, water, or water-soluble salts in porous materials, but do not provide direct evidence on mechanical properties including resistance to brittle damage caused by various physical weathering processes. On contrary, experimentally derived rock mechanical properties are used very rarely for the estimation of the durability of natural stone. This concerns not only basic rock mechanical properties (strength) but also deformation (stress-strain behaviour) and energetic parameters derived from it. In the recent study, we are discussing both these approaches and looking for possible correlation or for mutual use of data from both types of tests.