Porous Ceramics – Experimental Research and Modelling

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The paper presents the results of experimental research and modelling of porous ceramics under uniaxial compression. Alumina specimens with the porosity up to 30\% were loaded axially, then unloaded and loaded again with a certain increase of the load. The loading-unloading process was stopped at the failure of the sample. The testing allowed to estimate approximately the influence of porosity on the initial elastic constants and further on change of elastic properties of ceramic material due to damage development. A scalar damage parameter evolution was also analysed.

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