Inorganically precipitated metal phosphate and metal carbonates may improve the physical and mechanical properties of the porous materials. Two types of porous materials i.e., sand and concrete, are examined. The phosphate and carbonate minerals of calcium and magnesium are appraised. Two series of experiments are conducted. In the first series of experiments, the efficacy of the inorganic grout is examined to improve the mechanical properties of sandy soil. In the second series of experiments, the efficacy of the inorganic phosphate to reduce the permeability of concrete is evaluated. The potential of these combinations is also appraised to reduce the permeability through the concrete cracks. The results exhibit that the reduction of the permeability through the cracks up to 3 orders of magnitude is possible.

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