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Processed Portuguese steel slag—A new geomaterial

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ABSTRACT: The management strategy for waste, in which the prevention of its production is not yet feasible, should lead to the prioritization of the exploitation of its performance potential, especially through re-use solutions. On this basis, a Research and Development Project is under way in Portugal, which is intended to re-use the processed steel slags produced in the two Portuguese Companies. In this paper are presented the results obtained by laboratory performance-related tests for geometrical, physical and mechanical properties for the two Portuguese processed steel slags, named Inert Steel Aggregates for Construction (ISAC). A special emphasis is made in terms of elastic modulus, comparing the two ISACs, with two standard base course materials (granite and limestone aggregates). The laboratory results show that the ISACs could be used in transportation infrastructures. It was also experimentally observed that the two ISACs have better mechanical properties than the standard unbound granular base course materials.