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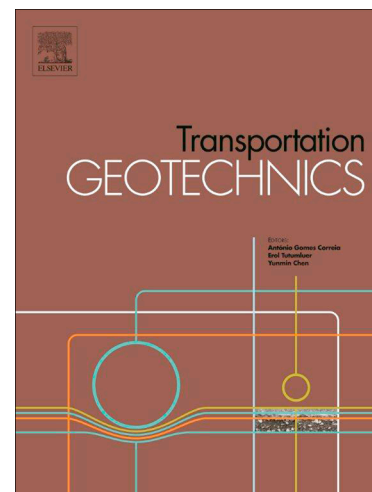
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Sodium Chloride as a Catalyser for Crushed Reclaimed Asphalt Pavement – Fly Ash – Carbide Lime Blends

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ABSTRACT: Reclaimed asphalt pavement (RAP) is the name given to reused pavement materials comprising asphalt and aggregates. Recycled RAP is almost always returned back into the roadway structure in some form, usually incorporated as a stabilized aggregate in base or subbase construction. To produce a stabilized base or subbase aggregate, RAP must also be crushed and screened, then blended with one or more stabilization reagents so that the blended material, when compacted, will gain strength. The aim of this study is to evaluate the impact of sodium chloride (NaCl) on the compressive strength and the accumulated loss of mass (ALM) after wetting-drying cycles on a mixture of crushed RAP with fly ash (FA) and carbide lime (L) (both industrial residues). Stabilization was carried out considering blends of 75% RAP and 25% FA. The moulding points considered three different dry unit weights [18.5 kN/m^3 (maximum dry density at modified energy Proctor) and two below 18.0 kN/m^3 and 17.0 kN/m^3], optimum mixture content at 9.0% and three different lime percentages (3.0%, 5.0% and 7.0%), as well as a 7-day curing period. The results indicate that adding 1.0% NaCl to the crushed RAP-FA-lime blends almost doubles strength for a 7-day curing period and reduces the ALM by an average of 50% in durability tests.

Key words: Reclaimed asphalt pavement; NaCl; industrial wastes; soil stabilisation; strength; durability.

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