Porosity and density characteristic of double-layer concrete paving blocks incorporating rubber granules

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Abstract

Porous cement concrete (PCC) is among the most effective voids reducer as compared to other types of concrete paver. The understanding on the techniques to produce durable pavement, the double-layer rubberized concrete paving blocks (DRCPB) was investigate in this study. Two rubber granules (RG) sizes, 1 mm to 4 mm, and 5 mm to 8 mm, were used as partial replacement aggregate to enhance the influence of DRCPB. The DRCPB containing 10 % (DRCPB-10), 20 % (DRCPB-20), 30 % (DRCPB-30), and 40 % (DRCPB-40) of RG designated with 10 mm, 20 mm, 30 mm, and 40 mm thick of top layer, and control concrete paving block (CCPB) were manufactured. Porosity and density test were carried out to analyse the durability characteristics of DRCPB. The results show that the porosity of DRCPB increased multiple when RG content increases from 0 to 40 % where the density of rubberized concrete is directly affected by the RG content.

KEYWORDS :

Porous cement concrete (PCC); paver