

Development of an Experimental Method of Joint Material Evaluation for Opening-Joint Blocks

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Abstract :

Permeable block pavements are installed in local roads to take advantage of the effects on safety, environmental sustainability and aesthetics. The opening-joint block is a type of permeable blocks where studies on selection of joint materials are insufficient. Joint materials were classified in accordance with the size of the aggregate, gradation and angularity. This study develops an experimental method for selecting appropriate joint material for opening-joint block.The test procedure is comprised of initial and long-term permeability test, test forlosses due to wind and compaction test. Furthermore, direct shear test and losses due to water flow tests were added as subsidiary method to compensate for experimental errors and low effectiveness. From this methodology, the following values were proposed as joint material standards: less than 20 seconds for initial and long-term permeability test; less than 2cm for losses due to wind and 2 g/cu.cm. for density after compaction.

Keywords : Permeable block pavement, Opening-joint, Joint material, Gradation, Permeability, Interlocking, Wash-out