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Water/gas Permeability of Bituminous Mixtures and Involvement in Blistering Phenomenon

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The blistering phenomenon is one of the major damages in bituminous pavement during a hot summer. The phenomenon was believed to be caused by water permeating from outside via channels of connected pores in bituminous mixtures. However, the surface course in bituminous pavement is not permeable to water, particularly near the blistering area. Therefore, permeation of liquid water is unlikely to be responsible for the water accumulation that causes the blistering phenomenon. Moisture vapor in the air is important in water intrusion into bituminous mixtures. This study examined moisture transfer mechanisms in bituminous pavements, focusing on the coefficient of permeability of pavement mixtures of both liquid water and humid air (*i.e.* air containing water vapor).

Keywords: [Asphalt mixture](#), [Blistering](#), [Water permeability](#), [Gas permeability](#), [Vapor permeation](#)



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