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Icephobicity studies of superhydrophobic coatings on concrete via spray method

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Abstract

Road icing has brought huge potential safety hazards and hundreds of millions of losses every year. However studies for anti-icing or de-icing coatings on concrete are still rare due to the special features of concrete surfaces. Here superhydrophobic coating was performed on concrete via spray method and the icephobicity was studied experimentally and theoretically. The low ice adhesive strength and good durability of sprayed coatings represent the potential for icephobic concrete and our theoretical model provides effective route for the design of icephobic concrete.

Keywords: biomaterials; interfaces; concrete; icephobicity; superhydrophobic

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