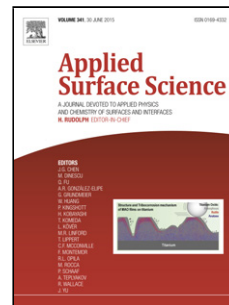


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Fabrication of superhydrophobic coating via spraying method and its applications in anti-icing and anti-corrosion

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Highlights

- Superhydrophobic coating was fabricated through spraying PMMA-SNs suspension on steel surface.
- The prepared superhydrophobic coating exhibited superior anti/delay icing property in cold/condensing condition.
- The resultant superhydrophobic coating showed outstanding anti-corrosion ability in corrosive solution.

Abstract

Superhydrophobic coating was fabricated by spraying the mixture of poly (methyl methacrylate) (PMMA) and hydrophobic silica nanoparticles (SNs) on steel surface. Anti-icing tests were carried out in two ways: freezing water (0 °C) dripping and condensation of atmospheric humidity in low temperature (-20 °C). In the water dripping test, no ice film could be observed compared with steel substrate, due to the

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