

The effect of NPs addition on the photocatalytic and antibacterial effectivity of composite TiO₂/SiO₂ paint

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Abstract:

TiO₂ in the anatase allotropic modification is well known for its photocatalytic activity. When the anatase is irradiated by UVA light, it forms an electron-hole pair which can participate in redox reaction. Thus, anatase-based layers are suitable for decomposition of organic compounds. Surface self-cleaning ability as well as antimicrobial efficacy are therefore key features for TiO₂ based layers. The present paper deals with a study of ZnO, CuO and Ag NPs addition on the antibacterial and photocatalytic effectivity of TiO₂/SiO₂ paint.

Key words:

Titanium dioxide, photocatalyst, anatase, ZnO, CuO, Ag, nanoparticles