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Abstract

The hydrophobic organosilane coatings decorated with graphene oxide were prepared to hinder the water molecules and corrosive ions to the metal bases, and to retard the corrosion reactions. The trilaminar structure was composed of Fe-W amorphous alloy layer, silane cross-linked graphene oxide layer and hydrophobic organosilane layer, which were formed layer by layer via electroplating, electrophoresis and vapor deposition, respectively. The morphology of the composite coating was observed by scanning electron microscopy, the electrochemical behavior was analyzed with the electrochemical impedance spectroscopy and potentiodynamic polarization