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Comparative study of anticorrosion characteristics of aminoborates

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Abstract

Inhibitor properties of new integrated combinations on the base of ortoboric acid, aliphatic amines and aminoalcohols were investigated by gravimetrical method, corrosion-electrochemical, corrosion fatigue behaviour methods. It has been revealed that aminoborate complexes have bigger inhibitory ability than the appropriate aliphatic amines. Increased inhibitory ability of St.10 steel corrosion by aminoborate complexes is explained by the formation of a better ferrohydroxoaminoborate protective film on the metal surface produced by means of the donor-acceptor bond with the unshared pairs of electrons of nitrogen atoms, OH-groups and chemisorption of borate ions.