ABSTRACT

Master's degree work Anikeievoyi A. O. on "Volatile inhibitors based on grape extract propeller to protect steel against atmospheric corrosion" - K .: NTU "KPI", 2016, p. 114, fig. 12, tab. 17, literature – 101

The master's degree work explored the use of isopropyl rowing extract grape "Vitis" (IEHV) as a volatile corrosion inhibitor atmospheric (LIAK) mild steel Art. 3. established that braking rate (γ) atmospheric corrosion of steel after pre-exposure samples in pairs IEHV, in terms of periodic wetting the surface of samples increases over time and reaches its maximum value (γ = 4,74) after 72 hours of corrosion testing. Morphological study of surface samples showed that the change in the rate of corrosion occurs as a result of changes in the state and structure of the surface film of organic origin.

Comparison of IEHV determined by gas chromatography-mass spectroscopy with data IR spectra IEHV, surface films and cinnamic aldehyde suggested that the surface film in the presence IEHV formed by adsorption-polymerization mechanism involving aldehydes and alcohols from storage IEHV, vapor moisture with salt solutions and oxygen. The proposed mechanism was confirmed by quantum chemical calculations. Polarization study revealed that the rate of atmospheric corrosion of steel initially controlled by anodic dissolution of steel after forming and sealing films - cathode recovery process of atmospheric oxygen.

Studies have shown that IEHV can be recommended as LIAK Article 3 to protect steel from corrosion in atmospheric conditions, periodic wetting the surface.

Keywords: atmospheric corrosion, isopropyl boats grape extract, adsorption, aldehydes, adsorption-polymerization mechanism, cathodic and anodic control.