

ABSTRACT

Master's degree work Vichkan I. Y. on "Anticorrosion properties of scale formed in conditions of waterheating boiler" – K.: NTUU "KPI". 106 p., 41 fig., 11 tab., 59 references.

The object of research – the processes of corrosion and scale formation in heating systems.

Subject of research – the impact of different types antiscals to scale formation and corrosion in the simulation working conditions boiler.

The aim of research - the development of modeling techniques of scale formation, investigation antiscals influence on the processes of corrosion and scale formation in heat exchange equipment and the assessment of the effectiveness of the inhibitory and antiscal action of reagents in hard water.

Research methods – the method of mass measurement, polarization resistance method, removing the polarization curves, the method of SEM-spectroscopy.

The experimental setup and method of determining the specific rate of scale formation and steel corrosion rates under controlled water supply were developed. The rate increasing specific mass scale, its structure and anticorrosion properties and the effect of antiscals on these properties were investigated in high hardness water. The antiscal corrosion properties of various compositions: HEDP, LWCh 1.1 and SeaQuest have been evaluated. It was established the best anticorrosive and antiscal property has antiscal - inhibitor HEDP with a concentration of 20 mg/dm³. The anodic behavior of steel 08 kp in high hardness water was investigated and the Tafel coefficients b_a were installed.

SCALE, CORROSION, CORROSION RATE, POLARIZATION RESISTANCE, ANTYSICALS, ANODIC DISSOLUTION