

Abstract

Development of technology of nickel protective coating of metal parts of heat exchangers

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Reduction of energy carriers consumption - important task for Ukraine's economy. The biggest demand energy-saving devices that do not require the conversion of existing boilers. The main element of these devices is a heat exchange tubes with high specific surface. For such mild steel pipes used with low corrosion resistance, which limits their widespread adoption. The aim was to develop technology for corrosion protection of heat exchange surfaces. To achieve the goal in the following problems were resolved. Conducted laboratory tests and evaluation of causing corrosion resistance of coated parts. Developed and tested industrial equipment for applying a protective coating on the heat exchange surface. Used physical and electrochemical methods for evaluating corrosion resistance and chemical analysis methods to select the best coating. The technology can significantly increase the lifetime of flat-oval pipes with incomplete ribs, which in turn will promote economizers and consequently reduce the economic dependence of Ukraine on imported energy.

Keywords: heat transfer surface, corrosion resistance, protective metallic coating, protection, corrosion tests.