The authors have compiled an overview of the reasons underlying the failures of pipelines, including inadequate selection of pipe materials and their thermal insulation made with no account for the operating conditions, high rate of wear and tear of steel pipelines due to steel corrosion, high cost of protection of steel pipes from the aggressive influence of the external and internal environment, failure to implement any pipe protection actions, use of insufficient thermal protection insulation, insufficient funding causing failure to restore, restructure or upgrade heating networks.

The authors have substantiated the use of chrysolite-cement pipelines within the heating networks of rural areas. Chrysolite-cement pipes may expediently substitute metal pipes in the course of construction and restructuring of pipelines. New metal-free pipelines, namely, those made of cross-linked polyethylene, glass-basalt-plastic and other composite materials, are too expensive; besides, their durability and environmental safety need to be checked.

Chrysolite-cement pipes have the following advantages over steel pipes: high corrosion resistance, high resistance to hot water, low values of temperature-driven deformations preventing installation of compensators, low heat conductivity reducing the need for thermal insulation, low laboriousness of installation, low installation and maintenance costs.

Key words: chrysolite-cement, pipes, insulation, trench-free pipelaying.

References


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