

**ВЫСОКОТЕМПЕРАТУРНАЯ КОРРОЗИЯ
МАРТЕНСИТНЫХ И АУСТЕНИТНЫХ СТАЛЕЙ ПОД
НАТРУБНЫМИ ОТЛОЖЕНИЯМИ СЛАНЦЕВОЙ ЗОЛЫ
HIGH-TEMPERATURE CORROSION
OF MARTENSITIC AND AUSTENITIC STEELS
UNDER ON-TUBE OIL SHALE ASH DEPOSITS**

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Superheater surfaces in oil shale steam boilers, constructed from pearlitic or austenitic steels, are subject to intensive corrosion, primarily due to the presence of chlorine in external deposits. The applicability of martensitic steels ЭИ-756, X10CrMoVNb9-1 and X20CrMoV12-1 for superheaters has been examined, and empirical equations for prediction of steel corrosion depth have been developed for the operational temperature range. An abnormal dependence of corrosion depth of martensitic steels on temperature is revealed, namely that corrosion in the presence of oil shale fly ash is more intensive at 580 °C than at 620 °C. On the basis of laboratory testing it was found that steel X10CrMoVNb9-1 is highly suitable for superheaters of boilers firing fossil fuels containing alkaline metals and chlorine.