International Standard

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Specification and requirements of thermal spray coatings for power plant boiler tubes

Spécification et exigences des revêtements de projection thermiques pour les tubes de chaudière des centrales électriques

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Foreword

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This document was prepared by Technical Committee TC 107, *Metallic and other inorganic coatings*.

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Introduction

Thermal power generation is the main form of power generation in the world. As an important part of the thermal power plant, the safe and stable operation of the boiler is very important for the thermal power plant. However, the four tubes of the boiler (water wall, superheater, reheater and economizer) are in contact with the flame or high-temperature flue gas for a long time, and the working environment is harsh. During operation, the tubes are affected by wear, high-temperature oxidative corrosion, high-temperature operation and other factors, which lead to leakage and directly threaten the safe operation of the thermal power plant. Thermally sprayed technology is an effective technology to improve the surface quality and prolong the service life of boiler tubes. So far, thermal spraying technology and metal and metal ceramic coatings have been widely used in the protection of various boilers (such as circulating fluidized bed boilers and biomass boilers) in the global energy industry. In the process of power plant operation, the type of coating is determined by the specific working conditions of various boiler tubes.

This document provides guidance for the application of thermal sprayed coatings on four boiler tubes and promotes technical progress in the energy industry.