

THERMAL SPRAYED COATINGS FOR HARSH ENVIRONMENTS AND LONGER SERVICE LIFE

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As the demand for higher efficiency and longer service life becomes very important in the modern society, thermal sprayed coatings are used increasingly. Two important applications are discussed: 1) corrosion resistant coatings for infrastructure such as bridges and highways, and 2) thermal barrier coatings (TBC) for gas turbines. Type of materials chosen, spray processes, coating microstructure, characterization and testing, and performance are discussed. The merits of these coatings as well as the limitations of current coating systems are discussed from various viewpoints. It is emphasized that new coating materials with balanced properties are needed for better performance.

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