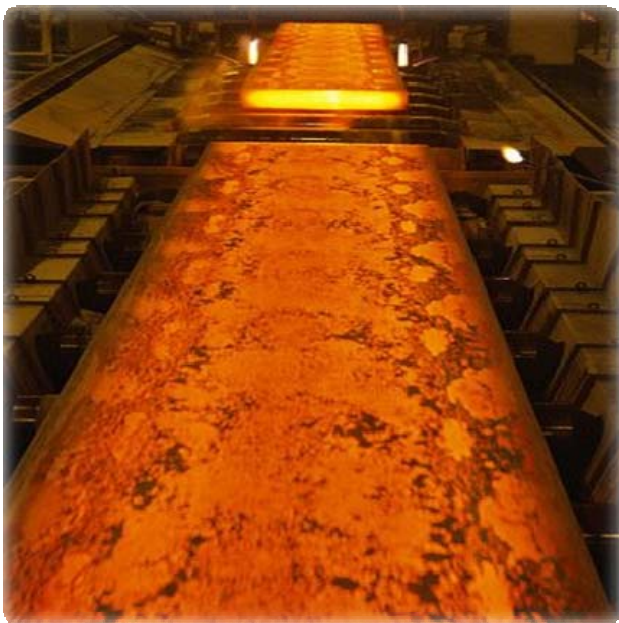


THERMAL SPRAY FACILITIES

COATING SYSTEMS FOR HVOF, PLASMA, FLAME SPRAY, ARC SPRAY & ROD SPRAY

The Situation of Steel industry Components

In the production and processing of steel great demands are made on the surfaces of rollers, as they have a direct influence on the quality of the product being manufactured. In operation these rollers are subjected to various types of hazardous conditions, for example:



Production and processing of steel on the surfaces of rolls.

- In continuous strip galvanizing lines the liquid zinc attacks the rolls submerged in the galvanizing bath.
- Hearth rolls react with the furnace atmosphere at temperatures of up to 1100°C. In addition, heavy wear is caused by adhesion and abrasion. Another major problem is that slag and scale can stick to the rolls.
- Rolls of the roller apron and the roller table, as well as deflector and anvil rolls are subjected to both high thermal and mechanical stresses.

Our Solution

For the range of Thermal spray applications in the steel industry we have developed customised coating systems, which are perfect solutions for surface related issues. Coatings exhibiting optimum properties can be produced by simultaneously applying different materials, for example oxides (Al_2O_3 , ZrO_2) or carbides (WC , Cr_3C_2) together with a high temperature resistant

nickel or cobalt alloy. Sealing as a post treatment may be suitable to further adapt surface properties and the constitution of thermally sprayed coatings. NiCrBSi coatings can be fusion bonded and have properties similar to a hard weld-cladding. These coatings are chased for applications with very high demands on the adhesive strength.



Rolls used in Steel manufacturing line



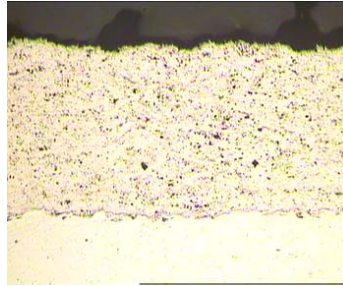
Ceramic coating on CAL roll



HVOF coating on Sink roll

Customer Benefits

- Consistent high steel quality level.
- Cost reduction in over all roll cost.
- Constant R & D.
- Coatings process under ISO 9001 Standards.
- In-situ coating works for heavy machineries.



COATING FEATURES

- * Porosity <1%
- * Hardness 1250VHN_{0,3}
- * High bond strength> 10,000PSI

Microstructure of WC-12% Co applied for abrasive wear resistance.

Steel Industry components at different stages of production line requires thermal spray are listed below.

- Bridle roll
- Sink roll
- Deflector roll
- Driver roll
- Pump casing
- Run out table(ROT) roll
- Rolling cones etc.

The Model MJF-5000 gun is applied for HVOF coating on steel industry rolls. This is a rugged, simple design that minimizes maintenance and maximizes production.

MEC offers a complete portfolio of surface technology solutions, products & services for steel industry.



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