

Coating Service Solutions Metco STEEL

Coating System for Flat Steel Processing Lines

The situation

In the production and processing of flat steel, great demands are made on the surfaces of rolls as they have a direct influence on the quality of the product produced. In operation, these rolls are subjected to various types of hazardous conditions.

For example:

- In continuous strip galvanizing lines, the molten metal attacks the rolls submerged in the sink bath.
- Hearth rolls, which see temperatures up to 1100 °C (2000 °F), are prone to oxide pickup on the roll surface. These oxides as well as speed differentials between the roll and the strip can result in a defective end product.
- Rolls used for steel processing are subjected to high thermal and mechanical stresses.
- The desire to find a suitable replacement for hard chromium plating that is more environmentally friendly.



The solution

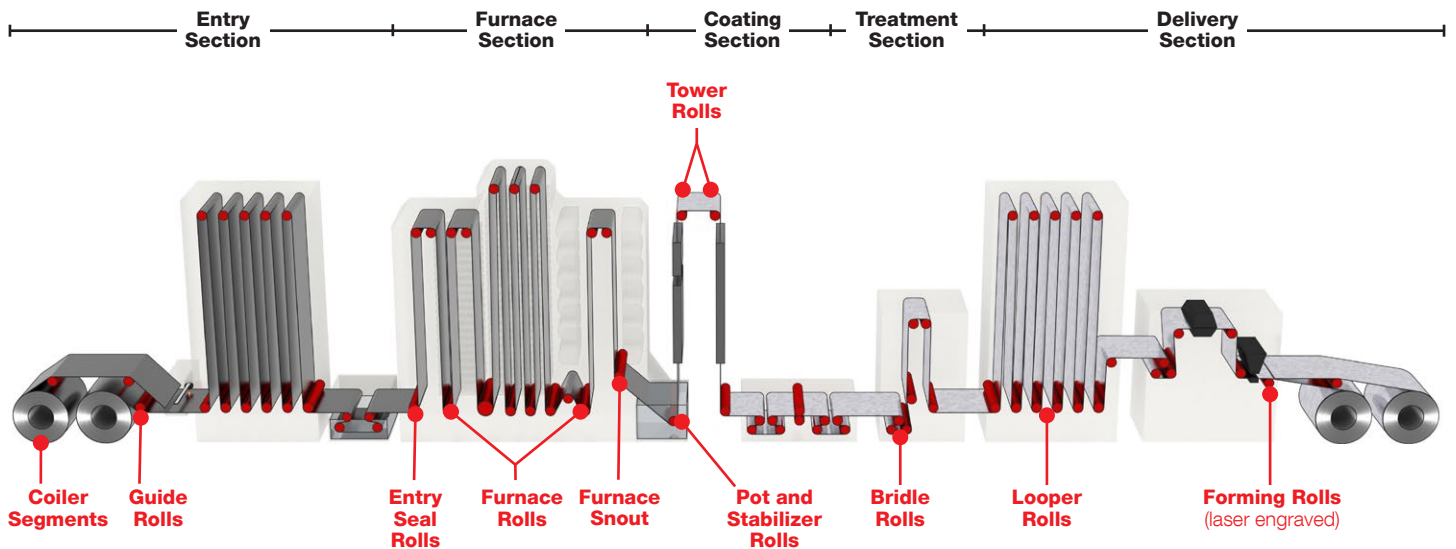
Coatings of Metco™ STEEL are customized systems developed by Oerlikon Metco for steel manufacturing applications that are used by leading steel companies. Coatings exhibiting optimum properties are produced by simultaneously applying different materials.

For example, oxides or carbides are applied together with a high temperature-resistant nickel or cobalt alloys that result in coatings that can withstand the rigors of demanding steel processing applications. When suitable, post-coat sealers are applied to impart additional beneficial characteristics to these thermally sprayed coatings.

Key benefits

- Supports the production of consistently high quality steel
- Improves service life and increases meantime before repair or replacement of rolls
- Reduces overall roll cost and downtime for roll changeout
- Increased operator health and safety
- Continual R&D to further improve Metco STEEL solutions for present and future demands
- Coatings processed under ISO 9001 certified quality management system
- State-of-the-art, in-house coating quality control laboratories
- Capable of handling large parts up to 60 000 kg (132 277 lb) and 2 860 mm (112.6 in) diameter

Solutions for Flat Steel Processing Line Applications



● Oerlikon Metco Coating Service Solutions for Steel Processing – Example: Continuous Galvanizing Line (CGL)

With more than 80 years of experience in the development and production of coating materials and equipment, Oerlikon Metco is a leading coating services provider for the steel industry and the ideal partner to help you develop the right coating for your application.



Coated sink roll

Metco STEEL SR

For sink rolls used in continuous galvanizing lines

- Minimum wettability by zinc and zinc-aluminum melts
- Low adhesion to zinc and iron-zinc alloys
- No formation of brittle intermetallic phases
- High wear and corrosion resistance

Metco STEEL AL

For rolls used in continuous aluminumizing lines

- Minimum wettability by aluminum melts
- Good corrosion resistance to aluminum melts
- Wear resistant

Metco STEEL HR

For hearth rolls

- High hardness and wear resistance
- Heat and thermal shock resistant
- Suitable for furnace atmospheres, such as nitrogen or hydrogen, up to 1100 °C (2000 °F)



Coating of a hearth roll

Solutions Designed for You

- Coat and finish according to your specifications
- Development of tailored solutions using our inhouse capabilities
- Access to Oerlikon Metco's extensive material R&D capabilities for development of new coating solutions



Information is subject to change without prior notice.