Hot dip galvanizing line no. 4
voestalpine AG, Austria
Hot dip galvanizing line for latest high-strength steel

Entry section
The automatic sequences of the entry section comprise the height and width centering of the coil as well as the subsequent positioning onto the pay-off reel. Based on the data provided by the level 2 automation system, the strip gets prepared and is transported to the welding machine.

Exit section
The exit section also operates fully automated. After the completion of the coiling operation the coil passes the strapping, marking, and labelling station on its way to the exit area.

Furnace
The furnace of the hot dip galvanizing line no. 4 at voestalpine Linz enables the customer to manufacture the latest high-strength steel grades and to galvanize the strip with the best surface quality. This is achieved by a new concept of a direct-heated furnace which permits extremely exact atmosphere. The radiant tube section is equipped with the proven on-off technology with low-pollution burners. In the cooling section the differential rapid jet cooling technology – DRJC – is installed. This fast cooling section sets new standards through highest cooling rates with constant and controlled cooling across the strip width.

Zinc bath
The arrangement of the main control pulpit positioned directly in front of the zinc bath enables the operators to control the galvanizing process directly. In addition, the large number of HMI* operating stations and video screens ensures an ergonomic observation and adjustment of the entire line.

* Human-Machine Interface
Skin pass mill
Tension leveler
The material properties and surface qualities are adjusted by the skin pass mill which is prepared to process the strip with two different work roll diameters. Thus, closest elongation tolerances and best surface quality can be guaranteed. The design of the tension leveler enables the production of advanced high strength material by means of 6-high cartridges.

Coater
The chromium-free passivation fluid is applied to the steel strip by the precise high-speed coating unit. The application of the chemicals takes place by a 2 x 2 roller system, moving inline or in reverse operation mode. The automatic coater control adjusts the layer thickness quickly and precisely.
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Features
Scope of supply and services of ANDRITZ METALS
- Mechanical equipment for the entire strip transport
- Furnace, skin pass mill, tension leveller, coater and turreted type side-trimmer
- General planning
- Commissioning and start-up

Project data
- Project start: June 2005
- Start of assembly: May 2006
- Start of operation: April 2007

Technical data
- Capacity: 450,000 t/a
- Strip thickness: 0.4-2.0 mm
- Strip width: 750-1,750 mm
- Coil weight: max. 35 t
- Entry section speed: max. 300 m/min
- Process section speed: max. 220 m/min
- Exit section speed: max. 350 m/min
- Steel grades: CQ, DQ, DDQ, EDDQ, HSLA, CP, TRIP
- Zinc coating weight: total 60-350 g/m²