

SUCCESS STORY

Best galvanized surface qualities for the automotive industry



METALS

HOT DIP GALVANIZING LINE NO. 4

VOESTALPINE AG AUSTRIA

ANDRITZ

ENGINEERED SUCCESS

Hot dip galvanizing line for latest high-strength steel

The furnace in hot-dip galvanizing line no. 4 enables the customer to manufacture the latest high-strength steel grades and galvanize the strip with the best surface quality. ANDRITZ METALS supplied the mechanical equipment for the entire strip transport. The capacity is around 450,000 tons per annum, with a maximum speed of 350 m/min.



DFF furnace section

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 automatized. 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



Entry with laser welder

PLANT FACTS

Capacity	450,000 t/year
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/m ²
Project start	2005
Start of operation	2007

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.



ENGINEERED SUCCESS FOR FLAT PRODUCT PROCESSING

ANDRITZ Metals is – via the Schuler Group – one of the world's leading suppliers of technologies, plants and digital solutions in sheet metal forming. The product portfolio also includes automation and software solutions, dies, process know-how and service. In the metals processing segment, the business area provides innovative and market-leading solutions for production and processing of flat products, for welding systems, as well as furnaces and services for the metals industry.

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