CONTINUOUS GALVANIZING LINE #4
TANGSHAN IRON & STEEL CORP.,
TANGSHAN, PR CHINA
In April 2013, Tangshan Iron & Steel Corp., a key enterprise of Hebei Iron & Steel Group based in the eastern area of Hebei province, awarded Primetals Technologies an order for the supply of a complete new cold rolling plant, including a coupled pickling line and tandem cold mill (PLTCM), a continuous annealing line (CAL) and a continuous galvanizing line (CGL), to produce high-strength automotive plate and advanced steel grades for household appliances. The complex has been designed for a capacity of 1.6 million tons per year.

The two processing lines were manufactured by a consortium of Primetals Technologies for the supply of the key equipment, and its associated partners: Siemens Ltd China for the electrical and automation equipment and individual mechanical parts, and Andritz Selas for the furnace. The entire local part was supplied by Primetals Technologies.

A remarkable aspect of this project was the extremely short execution period of only 21 months from the contract signing to the first coil.

**SCOPE OF SUPPLY**
- Coil charging section equipped with an entry walking beam, a shuttle coil car, and an automatic unstrapping and a weighing station
- Entry section with a double payoff reel and scrap evacuation outside the building
- Welding section equipped with a laser welding machine including entry and exit centering units and a notcher
- A 16-strand entry looper with a capacity of 400 meters and a top movable carriage
- Cleaning section including 1 vertical dip dunk tank with spray, 1 brush scrubber, 1 vertical electrolytic cleaning tank, 1 brush scrubber and 1 HP rinsing tank
- Furnace section equipped with an ART (all-radiant tubes) furnace technology
- Coating section including a wiping system, a zinc pot and associated equipment
- Cooling section comprising an APC tower and quenching system
- A 16-strand intermediate looper with a capacity of 400 meters and a top movable carriage
- TM-TL section equipped with a 4-high temper mill, a shapemeter, a roughness gauge, and a tension leveler
- A mechanical properties measurement system
- Post-treatment section including 2 manual roll coaters
- Exit looper with a capacity of 290 meters and a top movable carriage
- Side-trimming section equipped with a side trimmer and a scrap chopper
- Inspection section including a vertical and horizontal inspection station, a mechanical properties measuring device, and automated surface inspection system (SIAS®)
- Exit section with an electrostatic oiling machine, a double tension reel, and scrap evacuation outside the building
- Coil discharging section equipped with an exit walking beam, a shuttle coil car, an automatic strapping machine, a scrap chopper, a tension reel, and scrap evacuation outside the building
- Electrical and automation equipment

**PLANT DATA**
- **Annual capacity**: 420,000 t
- **Material**: Cold rolled steel
- **Line speed**: max. 250 m/min
- **Entry section**: max. 250 m/min
- **Furnace section**: max. 180 m/min
- **TM-TL section**: max. 220 m/min
- **Exit section**: max. 250 m/min
- **Coating range**: 60 to 450 g/m² (both sides)
- **TM-TL section**: max. 250 m/min
- **Tension leveler capacity**: max. 25 t
- **Tension leveler capacity**: max. 250 t
- **Post-treatment**: Anti-fingerprint and passivation solutions

**PRODUCT DATA**
- **Product grade**: CQ, DQ, DDQ, EDDQ, SEDDQ, BH, HSS, DP, TRIP
- **Strip thickness**: 0.20 to 2.50 mm
- **Strip width**: 700 to 1,600 mm
- **Coil weight**: 26 t

**BENEFITS**
- State-of-the-art continuous galvanizing line able to produce the latest generation of advanced high-strength steels (AHSS) for automotive export market
- One single partner with overall responsibility, Primetals Technologies is the leader of the consortium for the PLTCM, CAL, and CGL
- Through the seamless integration of the production equipment and automation, Primetals Technologies has full control over productivity, quality, and availability performance, which are key factors for profitability
Primetals Technologies France SAS
A joint venture of Siemens,
Mitsubishi Heavy Industries and Partners

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