

## Scope of supply

Ingeteam Power Technology, S.A, Industrial Systems Division is responsible for the complete turkey electrical and automation project:

- Project Management. (BIO)
- Basic and detail engineering. (BIO+Ltda)
- Scope of Supply:
  - MV Switchgears (Ltda)
  - MV/LV Transformers (Ltda)
  - Diesel Generator (Ltda)
  - LVD (Ltda)
  - Power Factor compensation & Harmonic Filtering (Ltda)
  - Line AC motors. (BIO)
  - Line DC-Bus drives - SINAMIC-S120. (BIO)
  - Aux motors AC variable and fixed (Ltda)
  - Auxiliary AC drives - SINAMIC-G130. (Ltda)
  - AC-MCC (Ltda)
  - UPS and auxiliary control voltage distr. (Ltda)
  - Control desks and local panels. (Ltda)
  - Control cabins (Ltda)
  - Integrated control equipment SIMATIC S7-400. (BIO)
  - Control and supervision equipment INTOUCH. (BIO)
  - Process Computer Level II system. (BIO)
- Programming. (BIO + Ltda)
- Commissioning. (BIO + Ltda)
- Electrical installation supervision. (Ltda)
- Electrical Installation (Ltda)



VUVF SINAMIC S120 Equipment



PLC Simatic S7-400



Acumulator

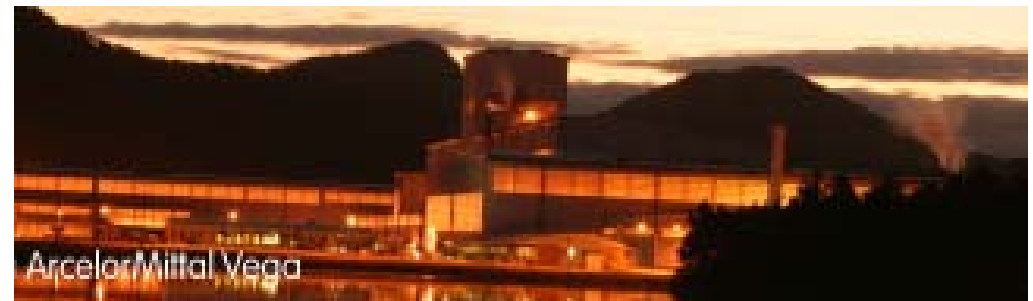
## After-sales services

- 24-hour / 365-day Technical Assistance Service Via Phone.
- Technological improvements.
- Spare parts management.
- Direct line with our technical staff.
- Remote diagnosis via modem of the factory automation network.

# Ingeteam

## Hot Dip Galvanizing Line 2

ArcelorMittal Vega do Sul (Brazil)



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# Ingeteam

**Ingeteam**

Industry

## Project Description

On March 4th 2008 **ArcelorMittal Vega do Sul** commissioned Ingeteam Power Technology, S.A., Industrial Systems Division to carry out the supply, programming, documentation, erection supervision and commissioning of the Electrical Equipment for a Second New Galvanizing Line in Brazil.

Ingeteam Power Technology, S.A., Industrial Power Division as Electrical Leader Company in Bibao together with Ingeteam Ltda as Electrical Local Company in Brazil carry out the complete Electrical solution for this Line including the complete Electrical Erection.

Commissioning will take place in the last half of 2009.

The proposed process line includes the main following stages:

- Double pass entry section with shear, welder and notcher
- Chemical degreasing section.
- Horizontal furnace (Thermline by AM):
- Pot GI, Pot Al Zn, and Coreless Premelt Pot (Inductotherm by AM)
- Air knives (Kohler)
- Skin Pass Mill and Tension Leveller to provide the strip the requested surface finish and flatness.
- Chromating section.
- Single pass exit section with V/H inspection, shear and weighing station.

## Technical Features

**Process Type:** Hot Dip Galvanizing Line.

**Production capacity:** 350,000 Ton/year.

**Incoming material:**

- Low carbon steel coils and microalloyed steel. Based on EN 10130:1998
- Thickness: 0,25 to 2,0 mm.
- Width: 700 to 1600 mm.
- Int. diameter: 508 - 610 mm.
- Ext. diameter: 1000 to 2100 mm.
- Weight: 34 Tons.

**Outgoing material:**

- Based on EN 10327:2004 and EN 10326:2004
- Thickness: 0,25 mm to 2 mm (+Zinc).
- Coating type: Galvanizing GI or AlZn.
- Coating Weight: 50 to 350 g/m<sup>2</sup> total both sides.
- Oiling Machine: 0,4 to 4 g/m<sup>2</sup> each side.

**Line speed:**

- Jogging: 30 m/min.
- Threading: 60 m/min.
- Entry Section: 240 m/min.
- Process Sec.: 180 m/min.
- Exit Section: 300 m/min.

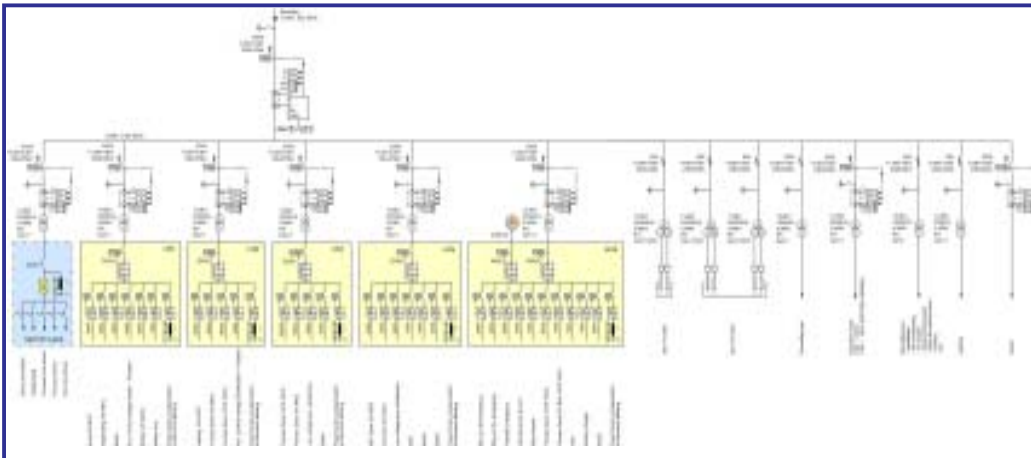
**Qualities:**

- CQ; DQ; DDQ; FH; EDDQ; 340 HSLA

**SKP Mill & Tension Leveller:**

- Elongation (0,8% to 1,9%).
- Roughness 1 Micron.

## Distribution Diagram



## Automation Control Diagram

