



**MODERNIZATION OF A 3-STAND
ALUMINUM COLD TANDEM MILL**
CONSTELLIUM ROLLED PRODUCTS
SINGEN GMBH-KONTI 1

IMPROVING PRODUCTIVITY AND STRIP QUALITY

HIGHLIGHTS

- Ten month time schedule for engineering design, supply & installation
- Ten day shutdown to minimize production disruption
- A reduction in off gauge material length has improved coil yield
- Reduction of thickness and flatness tolerances
- The modernized mill has continued to produce high quality coils exceeding previously set production records
- Strip quality improved (gauge and flatness)
- Fully integrated electrical and automation system including AFC/AGC/L2 control has greatly improved mill availability
- Commissioning was successful and the production ramp up targets were achieved leading to FAC on time.



Interstand section

THE CHALLENGE

In February 2017, Constellium Rolled Products Singen GmbH selected Primetals Technologies to revamp the 4hi - 3 stand aluminum tandem cold rolling mill at Singen, Germany.

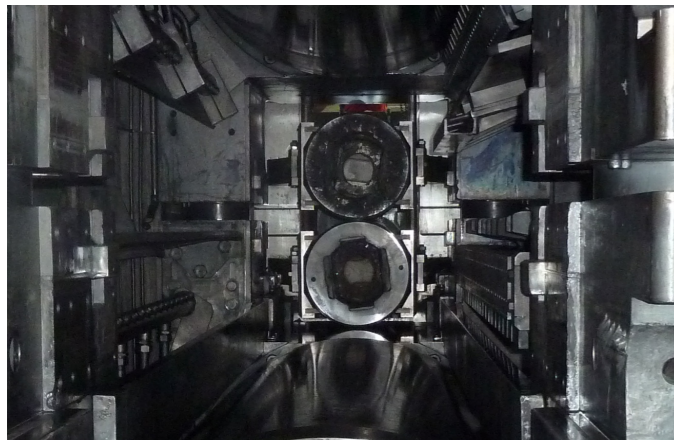
As a major global supplier of aluminum flat rolled products the main aims of this investment for Constellium were to:

- Increase production volumes
- Improve product quality
- Penetrate new markets
- Ultimately exceed the demands of the expanding aluminum market.

OUR SOLUTION

Primetals Technologies were successful in securing this project after demonstrating that:

- The entire project from engineering design, equipment manufacture, supply and installation could be achieved within a ten month timeframe
- Only a ten day outage period was required which greatly minimized any disruption to production
- Primetals Technologies could deliver the engineering design, manufacture, supply and installation of the equipment on a turnkey basis.
- The mill enhancements would deliver increased production volumes, improved quality and greater yield.
- The newly installed Level 2 automation system would reduce off gauge length
- In addition to our technical competence and world-class automation system we have significant experience in the successful delivery of modernization projects



Mill window

FINISH PRODUCT DATA

Aluminum alloys	1xxx, 3xxx, 5xxx & 6xxx
Maximum strip thickness	10.0 mm
Minimum strip thickness	0.7 mm
Coil I/D (without sleeve)	500mm
Coil max O/D	1800mm
Coil weight (max)	11,000 Kgs

SCOPE OF SUPPLY

Project management, design, and supply of key equipment for:

- Entry temperature measurement system
- Entry bridle
- Entry X-ray gauge
- Work roll offset solution
- Work roll bending and backup roll balance system
- Roll coolant system
- BUR chock modification
- Interstand coloring roll
- Interstand strip cooling system
- Exit temperature measurement system
- Mill hydraulic system
- Mill coolant pipework
- New Level 1 automation system including:
 - Mass flow thickness control
 - New pulpit
 - New ET200 process interfaces
 - New HMI
 - New roll coolant controls
 - New stand controls
- New Level 2 automation incorporating math models for automated mill setup calculation
- Primetals Technologies ISV roll coolant spray bar

Primetals Technologies Limited

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