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**ALUMINIUM COLD ROLLING MILL**  
HENAN ZHONGFU, CHINA

# ALUMINIUM COLD ROLLING MILL



**The Customer:**  
Originally sold to Chinalco/Vimetco (Joint ownership), Henan Zhongfu  
Recently sold and relocated to Chinalco, Ruimin

**Location:**  
Original Location: China, Henan Province  
New Location: China, Fuzhou City, Fujian Province

**Production:**  
120,000 tonnes per annum

**Final Acceptance:**  
January 2013  
As part of the Chinalco/Vimetco group, Henan Zhongfu's new aluminium cold rolling mill installed by Primetals Technologies has strengthened the position of the company in flat rolled products globally. They now have the capability of supplying a wide range of products to world class quality.

## THE CHALLENGE

The mill supplied by Primetals Technologies is currently one of the most technically advanced and fastest heavy breakdown cold mills to be supplied anywhere in the world today.

Our solution for cold mills specifically addresses the high speed element of the mill, to process large coils at high rolling loads and the robust demands imposed by the heavy gauge cold rolling process. Furthermore, the mill has the ability to roll light gauges as part of a multi-alloy product mix that comprises soft, medium and hard strength alloys. The alloys include high added value products such as Lithographic and Canstock sheet.

## THE SOLUTION

The mill features the latest cold mill technologies in all aspects of mechanical, fluid and electrical design and includes the unique Dynamic Shaperoll (DSR®) that works in conjunction with the Primetals Technologies world leading Process Control and Automation System.

The DSR® replaces the top solid back-up roll usually employed at four-high stands and provides improved flatness control, especially in the critical areas at the head and tail ends of the strip. Thus, significant improvements in overall coil yield can be achieved. At the moment, the DSR® is a unique technology being the only truly on-line dynamic actuator that is able to undertake symmetric and asymmetric changes to the roll-gap profile during ongoing production.



## TECHNICAL FEATURES

- Twin Strand Pallet Conveyor Coil Handling System
- Automated Spool and Scrap Coil Handling
- Dynamic Shaperoll DSR®
- AGC by feedforward, feedback and mass flow
- ISV spray bars and Hot Edge Sprays
- Edge wipe system
- Constant force twin ironing roll

## ACHIEVED RESULTS

- High speed rolling, speeds achieved of up to 1800 m/min
- Saleable product with a finished gauge of 0.1mm
- Excellent cold start
- Minimal length to achieve flatness & thickness targets
- Unrivalled ability to handle product changes

## PRODUCT DATA

Material	Aluminium AA 1000, 3000, 5000 and 8000 series alloys
Entry thickness	5.5 mm (maximum)
Exit thickness	0.10 mm (minimum)
Width range	900 - 2100 mm

## Coil data

Diameter	2500 mm
Max weight	24,000 Kg
Density	11.4 Kg/mm width

## Mill data

Mill type	4-high breakdown mill
Work roll dimensions	470 & 1400 Diam. x 2350/2300 mm wide
Nominal production	120,000 tpy
Max. rolling load	2000 tonnes
Maximum mill speed	1800 m/min
Main drive power	5500 KW synchronous motor with SM150 voltage source converter

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