



A NEW INNOVATION FROM AIR PRODUCTS FOR COLD ROLLING MILLS

Cold rolling with N₂

This patented innovation offered by Air Products, gives you a clean, high quality surface, together with increased rolling speeds, without the need for an oil or water based lubricant.



Guido Plicht
Air Products Specialist

Air Products cool rolling technology

cold rolling with nitrogen for wet and dry cold rollers

Rolling with Air Products cool rolling technology can improve surface quality and cleanliness, which can lead to enhanced product value and reduced scrap. It can also increase rolling speeds without the need for an oil or water based lubricant.

This environmentally sound technology is an alternative to both wet and dry rolling. When replacing wet rolling the benefits can include improved working conditions, reduced rejects and lower capital outlay and running costs. N₂ rolling can eliminate the need for post cleaning of the strip, which can enable significant increases in productivity and reductions in downstream processing

costs. For rollers who are currently dry rolling the adoption of N₂ cold rolling can also enable significant increases in rolling speeds without roll sticking or surface quality problems.

This patented cold rolling technology using N₂ combines our proven liquid nitrogen delivery system with a proprietary nozzle spray set-up, which can be retrofitted to existing mills or integrated into new installations. The result is a safe, non-flammable and cost efficient cold rolling system, which can help increase product value and reduce scrap.

*U.S. Patent 6,675,622

Air Products' solutions and services

Technical and design expertise

Advice and consulting

Process equipment

Fully integrated control equipment

Commissioning

Optimisation

Maintenance contracts

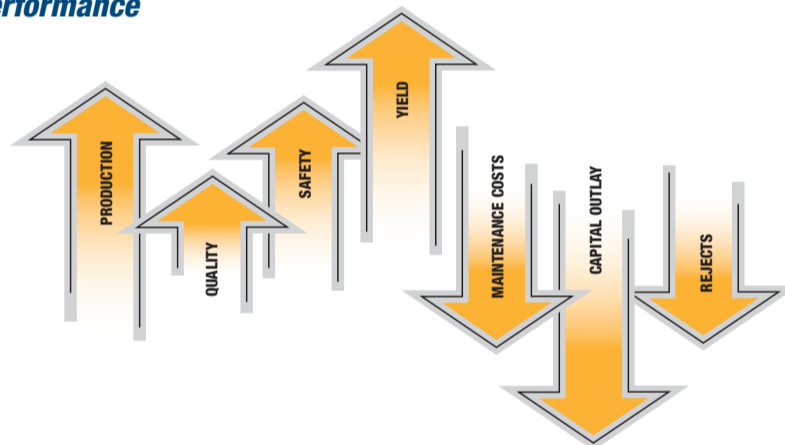
Safety Training

Air Products cool rolling technology Reference Guide

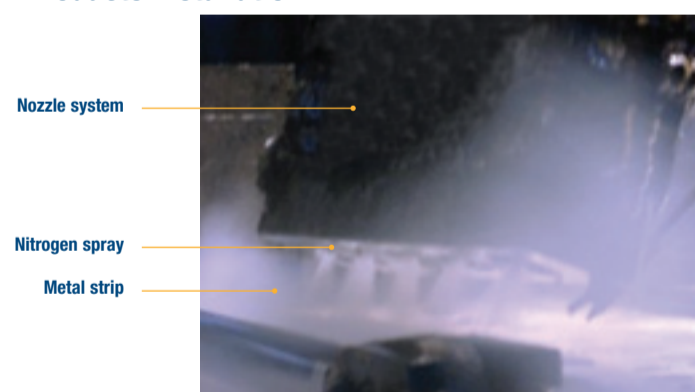
Key Features and Benefits

- Improved surface quality – Rolling with N₂ achieves a consistent, bright surface finish
- Increased productivity – Increased rolling speeds; elimination of the cleaning step
- Increased yield – Reduced scrap due to surface quality problems and rust in storage
- Increased product value – Oil-free product with improved surface quality can enhance market opportunities
- Improved safety and environment – The elimination of oil mist, oil fires and reduced risk of oil slips
- Reduced running costs – No lubricants, additives and filters. Reduced power consumption
- Reduced maintenance costs – No maintenance required of the lubrication cycle and cleaning system; no need to check oil quality; reduced roll repairs and change over; increased roll life
- Reduced capital outlay – No expensive CO₂ fire apparatus required; reduced roll inventory; no lubricant or cleaning system required

Typical Performance



Example of an Air Products installation



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