

STEEL SHEET COLD ROLLING

QUAKEROL 700 Series

A major producer of automotive-quality steel was looking for increased performance in their cold rolling operation. After using the same product for 15 years, the company believed that new rolling oil technology could improve their overall results.

The company was looking for improvement in:

- Speed on critical (hard) grades
- Strip exit temperature
- Total gauge reduction
- Strip cleanliness
- Oil consumption
- Elimination of heat scratch defects

Quaker Chemical introduced a product from the QUAKEROL 700 Series, a series based on a Quaker proprietary synthetic ester and Defined Particle Distribution (DPD) emulsion technology.

IMPACT

The introduction of the QUAKEROL 700 Series resulted in:

TOTAL BENEFITS EQUAL TO 2 TIMES ROLLING OIL COSTS

Total Annual Rolling Oil Costs:	\$1.1 million
Operational Savings:	
Oil consumption lowered 47% from 425 to 225 grams per tonne	\$294,000
Speed increased by 30% speed on critical (hardest) grades	\$1,757,000
Reduction in heat scratch defects	\$252,000
Total Annual Benefit:	\$2.3 million

PROCESS & EQUIPMENT INFORMATION

Operation:	Four-stand, coupled tandem mill
Capacity:	2.1 - 2.2 million metric tons per year

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OTHER BENEFITS

Other benefits that came with the introduction of the QUAKEROL 700 Series:

- Less gauge variation
- Possibility of upgrading to HSS rolls
- Reduction in “sticker” rejects after annealing
- Excellent steel cleanliness
- Easy operator acceptance
- Record-breaking productivity in tonnes per shift

The QUAKEROL 700 Series is based on advanced, synthetic ester technology and Quaker’s Defined Particle Distribution (DPD) emulsification. This combination delivers excellent lubrication to the roll-bite while maintaining consistent emulsion performance and excellent cleanliness. The products in this series can be used for coupled or standalone tandem mills rolling surface critical sheet applications.

CUSTOMER REFERENCES

Usinor – Sollac

Arbed – Sidmar

OEM REFERENCES

Danieli - United

VAI - Clecim

COST-BENEFIT ANALYSIS

Rolling lubricants represent a very minor part of the costs in a steel-making process, typically considerably less than 1%. This case illustrates the importance of the correct selection of the rolling oil. The impact of a correct selection is usually a multiple of the fluid costs making the price of a rolling oil virtually irrelevant. That’s why Quaker focuses on developing products with the highest performance without compromise, fluids that sharpen your competitive edge.

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