

CHEMICAL MANAGEMENT SERVICES

Solution Management

A major producer of automotive-quality steel was looking for increased performance in their cold rolling operation. The company hoped to decrease costs and improve quality in their pickling and cold rolling operations.

The company was looking for improvement in:

- Rolling lubricant consumption
- Lubricant concentration control
- Tramp oil contamination
- Tandem mill defect rates
- Pickle oil consumption
- Lubricant temperature control
- Rolling solution iron content

Quaker Chemical introduced a Solution Management program that offered round-the-clock coverage of the pickling and rolling operations by an on-site team of solution technicians led by a program manager. On a three-year contract, these personnel were responsible for testing, solution control, system inspection, reporting and communication on a daily basis.

IMPACT

The introduction of the Solution Management Program resulted in:

TOTAL BENEFITS EQUAL TO 3 TIMES PROGRAM COSTS

Total Personnel and Operating Costs for Three-year Contract:	\$ 1,224,000
Operational Savings:	
Rolling lubricant consumption per ton decreased 31%	\$ 2,210,501
Pickle oil consumption per ton decreased 29%	\$ 1,058,517
Maintenance lubricant consumption decreased 32%	\$ 257,158
Decreased usage of waste treatment chemicals	\$ 200,950
Decreased usage of water in rolling operation	\$ 80,739
Total Benefit over Three-year Contract	\$ 3,807,865

OTHER BENEFITS

Other benefits that came with the introduction of the Solution Management Program:

- 50% reduction in surface quality rejects
- Reduction in tandem mill bearing failures
- Increased tandem mill productivity
- Professional assistance on special projects
- Conversion to higher performance rolling lubricant

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PROCESS & EQUIPMENT INFORMATION

Operation: Five-stand, tandem mill and pickle line
Capacity: 1.6 million tons per year

APPLICATIONS

Quaker Chemical Management Services is a ISO 9000 certified system that takes a disciplined approach to controlling the acquisition, deliver, storage, application, and disposal of process fluids in an industrial environment. The goal of these programs is to reduce total applied cost, demonstrate continuous improvement, and provide our customers an advantage over their competition.

CUSTOMER REFERENCES

LTV Steel	Corus (British Steel)	HYLSA
Rouge Steel	CSN	A.P.M.
TATA Steel	Bokaro Steel	AHMSA

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 proper management of the rolling oil application. The impact of solution management is usually a multiple of the program costs. That's why Quaker focuses on development products and services with the highest performance without compromise – solutions that sharpen your competitive edge.

CASE