

CORROSION PROTECTION

A major cold rolled sheet producer supplying the automotive market was

FERROCOTE EGL-1

plagued by rejects due to stain. Some defects were detected while the steel was “in-process” but many were not discovered until after delivery at the customer resulting in costly claims and rework.

Quaker Chemical recommended FERROCOTE EGL-1, a product with enhanced corrosion protection properties. The new product was applied to the steel strip after temper rolling and rejects due to stain were tracked.

IMPACT

The introduction of FERROCOTE EGL-1 resulted in:

SAVINGS EQUAL TO 7 TIMES ADDITIONAL PRODUCT COSTS

Before:

Annual cost of the original corrosion preventive	\$746,000
Tons of steel rejected annually due to stain	6,400
Cost of replacement and rework for rejected steel*	\$3,500,000

After:

Annual cost of FERROCOTE EGL-1 (Per-gallon costs increased 58%)	\$1,175,000
Tons of steel rejected annually due to stain	40
Cost of replacement and rework for rejected steel*	\$20,000

Additional Annual Product Cost: \$429,000

Annual Savings: \$3,071,000

PROCESS & EQUIPMENT INFORMATION

Operation:	Sheet Wet Temper Mill
Capacity:	1.5 million tons per year

* Includes: making the order the first time, shipping the coils to the processor or warehouse, shipping the steel back to the mill, making another prime order, reshipping the order, less revenue from selling the rejects as secondary or scrap. Does not include additional costs such as multiple inspections and reduced customer satisfaction.



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OTHER BENEFITS

Other benefits that came with the introduction of FERROCOTE EGL-1:

- No application changes needed
- Better tolerance of residual water on strip
- Easy removal for subsequent processing
- Same coating weights as original product
- Easy operator acceptance
- Automotive approvals

FERROCOTE EGL-1 is a high performance corrosion preventive for both uncoated and coated steel strip. It is designed to lessen stain vulnerability due to atmospheric, substrate, equipment or handling conditions.

CUSTOMER REFERENCES

AK Steel	Double Eagle Steel Coating
Nucor Steel	Wheeling-Pittsburgh Steel
USS-Posco Industries	U.S. Steel
Weirton Steel	Mittal

EQUIPMENT REFERENCES

Gencoat (formerly GFG Peabody)	United Air Specialists (UAS)
E.C.T.	Trion
Spray-and-roll application	ELETTROSPRAY®

COST-BENEFIT ANALYSIS

Temporary corrosion preventives 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 corrosion preventive. The impact of correct selection is usually a multiple of the fluid costs making the price of corrosion preventive oil virtually irrelevant. That's why Quaker focuses on developing products with the highest performance without compromise, products that sharpen your competitive edge.

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