

# CASE STUDY

## Steel: Continuous Anneal Line Cleaning

QUAKERCLEAN® 7000 SERIES

### The Challenge

A major North American producer of continuous anneal and zinc / zinc alloy coated substrate was currently using a two component cleaner (50% NaOH and surfactant package) on their continuous anneal line. The two component package made it hard to control the concentration and as a result the Steel producer was experiencing:

- High consumption of cleaner
- Uncontrollable foam and high consumption of defoamer
- Significant build-up of “cottage cheese” sludge in process tanks which required an outside waste service company to clean and haul away
- And the current supplier was not providing any technical service or support to help remedy the situation.

### The Solution

After a couple of weeks operating successfully on the line through:

- Controlling concentration purely on conductivity
- Improvements in cleaning

Quaker Houghton was awarded a trial on one of the steel producer’s hot dip galvanizing (HDG) lines, and was again able to demonstrate the same benefits they had on the continuous anneal line.

### The Benefits

Quaker Houghton trialed on the steel producers continuous anneal line and provided the following benefits:

- Easy concentration control based on conductivity with the introduction of the one component high solids cleaner QUAKERCLEAN® 7000
- Elimination of process sludge and 80% reduction in defoamer consumption by introducing a highly effective defoamer
- Technical support that reduced cleaner consumption by >60%, and improved cleaning
- Process recommendations that reduced foam generation by automating drain rates based on soap content, and weekly process audits that ensured process control

### The Product

The QUAKERCLEAN® 7000 Series are highly concentrated liquid alkaline cleaners designed for use in electrolytic and non-electrolytic cleaning lines. The QUAKERCLEAN® 7000 Series has chemical properties that provide complete chemical removal of lubricants; iron soaps, metallic smut, and are formulated with low-foaming properties, even in the presence of rolling oil soaps. The QUAKERCLEAN® 7000 Series are environmentally designed cleaner formulations that meet environmental regulations, and do not contain any nitrites, or alkyl-phenolic type surfactants, and thus would meet environmental regulations where prohibition of the use of phenolic surfactants is enforced.

