



CASE STUDY – STEEL MILL ONTARIO, CANADA

GALVANIZING LINE SPRAY BAR

A HYDROFLOW CANADA PROJECT

Location:	Ontario, Canada	Installation date:	February 2019
Country:	Canada	Date of first Inspection:	March 2019
Application:	Galvanizing Line – Cooling Spray Bars	Date of Second Inspection:	April 2019
Purpose of installation:	The prevention of scale build-up, and blockages in the spray bar nozzles and recirculation piping system		

INSTALLATION DETAILS

Model of Water Conditioner	<i>HydroFLOW i100 Electronic Water Conditioner</i>
Pipe Diameter(OD)	<i>3" Header to 1 ½" spray nozzles</i>
Pipe Material	<i>Rubber Pipe and Steel Header (Initial install was on steel pipe)</i>
Installation location (before/after pump)	<i>On the Output of the Pump (after)</i>



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OVERVIEW OF COMPANY

This is a Major Steel manufacturing and processing facility located in Ontario, Canada who currently chooses to remain anonymous.

DESCRIPTION OF PROBLEM

- Galvanizing Line cleaning spray system has a number of spray bars (6) that spray recycled liquid to cool product passing on the line
- There is a pump recycling the water through the 3" line at 500 USGPM
- High Concentration of TDS and contaminants causing complete blockage, the (6) Spray bars would need to be removed and changed out every 3 weeks
- Production schedule would be interrupted due to spray failures, clogging and maintenance.
- Supply piping would become blocked requiring mechanical auguring and high-pressure sprays to remove the buildup and blockages.
- Spray nozzles and bars required mechanical and chemical cleaning using manpower and hazardous chemicals.
- Regular customer expenses include: Annual Complete Header replacement, downtime, manpower to change spray bars, production loss, manpower to clean spray bars, supply pipe cleaning.
- Customer estimates system maintenance and replacement costs to be approximately \$ 35,000.00 per year.



PHOTOGRAPH OF PROBLEM AREA BEFORE TREATMENT



INSTALLATION POINT



- Initial Installation shown – In this position the results were limited
- The unit was subsequently moved to the output piping of the system pump



TRIAL METHOD

- This was a 3-month onsite HydroFLOW i100 trial
- Systems were opened and inspected after 3 weeks to observe buildups
- The system was opened and inspected on the regular 3-week timeframe
- No other system changes were implemented during the trial period

RESULTS

- Per the customer *“the results were unquestionable!!”*
- After the end of the first 3 week cycle sprays were inspected and found to have “nearly no buildup to cause clogging”
- Any buildup found to occur was a loose, fluffier material instead of a concrete like buildup
- Supply line which was at 65% blockage has been reduced to 10% blockage
- The system has now been running for 1 year from installation with no shutdown or blockages during this time, only inspections have been required.
- Client Cost Saving Analysis has determined the **ANNUAL SAVINGS** to be **\$35,000.00**
- ROI (return on investment) was calculated at 3 months for this application
- The customer is very pleased and looking at other applications for HydroFLOW technology within his operation.

PHOTOGRAPH OF PROBLEM AREA AFTER TRIAL

- Unavailable due to COVID19 site visit restrictions.



CONCLUSION :

- HydroFLOW Electronic Water Conditioners can stop scale build-up and blockages in recirculated cooling spray systems.
- Clients will realize a quick ROI on this type of spray application. If scaling is a problem in your applications HydroFLOW can reduce or eliminate the problem, and save large amounts on maintenance and downtime.

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