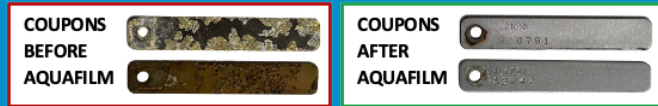


CASE STUDY – PLASTICS INDUSTRY


RESULTS

 **Hundreds of Thousands of Assets Protected**

The image below shows corrosion rates between aluminum and steel alloys before and after transitioning to Aquafilm 1284C. Aquafilm 1284C shows a significant difference in optimizing the closed loop system's overall performance.



CHALLENGE

A plastic injection molding facility housing over 60 presses had traditionally employed a molybdenum, silica, azole blended product to safeguard the diverse metals present in their chilled water loops. The facility faced challenges in achieving consistent results on corrosion coupons, with variations observed between different sets. Complicating matters, the facility implemented a soft water program that added to the corrosive nature of the make-up to the chilled water loops.



SOLUTION

In a strategic move to enhance corrosion resistance and better protect the molds used in the injection molding process, the facility chose to adopt Watertech Aquafilm 1284C.



The corrosion coupon report shows the reduction in mils per year of corrosion after 1284C was introduced. The results on carbon steel and aluminum coupons installed on 2/2/23 to those installed on 5/19/23 is dramatic. Carbon steel improved from “Good” to “Very Good” and Aluminum improved from “Severe” to “Excellent”. Taking aluminum corrosion from the worst category to the absolute best! Confirming Aquafilm 1284C is protecting hundreds of thousands of dollars in assets with one simple chemical change.

COUPON STATUS REPORT BEFORE AND AFTER AQUAFILM				
Component Tested	Chilled Loop	Chilled Loop	Chilled Loop	Chilled Loop
System Type	Closed	Closed	Closed	Closed
Coupon Type	Carbon Steel - C1010	Aluminum Alloy - AL1100	Carbon Steel - C1010	Aluminum Alloy - AL6061
Coupon Number	F60873	B6957	G10791	A2842
Initial Weight (g)	11.9815	3.9083	11.69972	3.9331
Final Weight (g)	11.8159	3.673	11.6491	3.9269
Weight Loss (g)	0.1656	0.2353	0.0481	0.0062
Date In	2/2/2023	2/2/2023	5/19/23	5/19/23
Date Out	8/21/2023	8/21/2023	8/21/2023	8/21/2023
Days Exposure	200	200	94	94
Corrosion Rate (mpy)	0.689	2.766	0.426	0.161

Coupons installed on 2/2/23
“Good” & “Severe” results

Coupons installed on 5/19/23
“Very Good” & “Excellent” results

Status	Open System			Closed System		
	Aluminum Alloy - AL1100	Aluminum Alloy - AL6061	Carbon Steel - C1010	Aluminum Alloy - AL1100	Aluminum Alloy - AL6061	Carbon Steel - C1010
Excellent	<1	<1	<1	<0.2	<0.2	<0.2
Very Good	1 - 2	1 - 2	1.1 - 3	0.2 - 0.3	0.2 - 0.3	0.3 - 0.5
Good	2 - 3	2 - 3	3.1 - 5	0.3 - 0.5	0.3 - 0.5	0.6 - 0.8
Fair	3 - 5	3 - 5	5.1 - 8	0.5 - 0.8	0.5 - 0.8	0.9 - 1.1
Poor	5 - 6	5 - 6	8.1 - 10	0.8 - 2	0.8 - 2	1.2 - 1.4
Severe	>6	>6	>10.1	> 2	> 2	> 1.5

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More than a water treatment solution.