

# REFERENCE PROJECT | Carbonate Removal Enhances Performance

Taking bigger steps...  
to leave a smaller footprint

The accumulation of carbonate and sulfate in the alkaline ZnNi processes leads to a significantly reduced performance of the electrolyte at a well-known zinc-nickel plater.



## THE CHALLENGE

A German zinc-nickel plater sought to minimize electrolyte waste, embrace sustainability, and adopt advanced processes. Rising waste disposal costs and stricter environmental standards demanded a rethink of waste and wastewater management.

The challenge: Carbonates and sulfates accumulated in the ZnNi bath, compromising quality. The plater relied on the labor- and cost-intensive Bleed & Feed process to maintain deposition quality. However, this method generated excessive electrolyte waste, prompting the company to install a CarboPure unit for a more sustainable solution.

## THE MACDERMID ENVIO SOLUTION

The CarboPure unit removes carbonates and sulfates from the plating electrolyte, preventing salting and ensuring consistent, optimal performance.

## THE RESULT

The CarboPure system delivered:

- Reduced costs and labor
- Savings on raw materials and energy
- Enhanced environmental and energy efficiency
- Improved solution conductivity, cutting energy use by 15–20%
- Reduced zinc content, drag-out, plating time, and current density
- Increased product throughput
- Significant reduction in zinc-nickel waste requiring external treatment

This innovative solution combines sustainability, efficiency, and cost savings, setting a new standard for zinc-nickel plating operations.



See our web site for more details  
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