ELGIN
SEPARATION SOLUTIONS

Copper Nickel Solutions

Copper use in the marine industry began 200 years ago to resist fouling of naval ships. When corroded, copper forms a protective layer called cuprous oxide. This layer is toxic to marine life while being relatively safe for humans. The downside of copper is that it slowly wears away and leaches into the surrounding water supply, resulting in deterioration of the alloy and contamination of the water supply. Thus, copper nickel alloy was developed to keep the effectiveness of copper without leaching.

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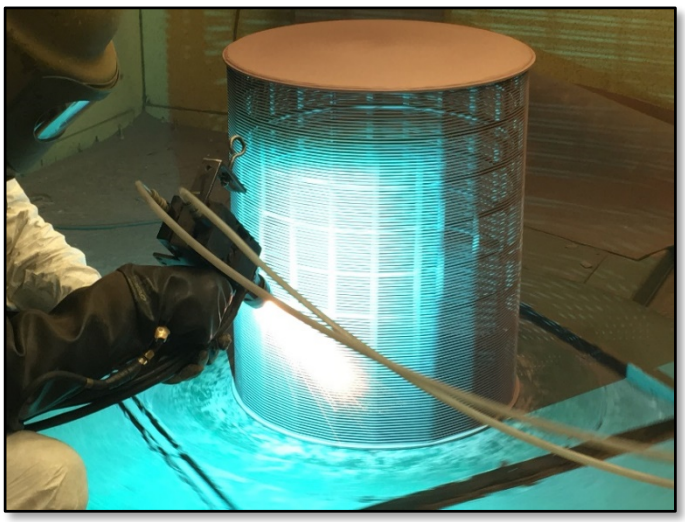
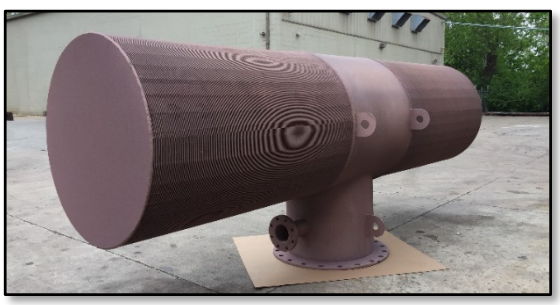


For decades, copper nickel has proven to resist corrosion and zebra mussels fouling. This alloy retains the effectiveness of copper without leaching into your water source. Elgin offers both a copper nickel coating and copper nickel construction. Our patented coating process (U.S. Patent #5,945,171) utilizes copper nickel alloy and applies it to a stainless steel screen substrate. Compared to copper nickel, stainless steel has double the tensile strength and slightly lower density. This results in a much stronger, lighter, and more cost-effective solution.

Elgin's copper nickel coating lasts longer and retains stronger adhesion than competing coatings. The superior adhesion is due to the thermal spray process, which is more like welding than painting. While other coatings need frequent re-application, our solutions last the lifetime of the system.



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Copper Nickel Solutions

Coating for chiller strainer in the tropics

The Four Seasons, an island resort in the West Indies, struggled with bio-fouling on their intake equipment. Elgin worked with the resort owner to retrofit his existing intake system (an offshore strainer) with a new passive screen system. Elgin also worked with the site owner to develop a custom flow modifier within the system, which ensured consistent flow, and adjusted the screens for easier installation and removal. Finally, Elgin's copper nickel coating solved the bio-fouling problems.


Four Seasons Resort - Nevis, West Indies


Rocky Mountain Power - Montana

Coating for flat panel screens at hydro plant

A small hydroelectric plant in Montana was inundated with bio-fouling problems. To protect their system, they retrofitted their existing structure with an array of flat panels coated with Elgin's copper nickel coating. Our solution simply worked.

Coating for intake pipe at power plant

A power plant retrofitted its cooling water intake system to comply with EPA Regulation 316(b). Concerns arose because the water body was infested with zebra mussels. In addition, the flow rate through the system was going to be decreased to a flow rate optimal for zebra mussel growth. The facility needed to maintain ample cooling water to avoid costly thermal discharge penalties or a system outage. Elgin's copper nickel coating was used to address these concerns. Our team built the pipe manifold and applied coating to the ID of the assembly. This application led to a significant reduction in capital cost compared to copper nickel construction.


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