

BADGERCOAT®

American Carbon Company Mixed Metal Oxide anodes are an easily installed investment to protect many structures. By using a very strong but nearly inert base metal, titanium, and coating it with a highly conductive rare earth metal coating, mixed metal oxide anodes have become a mainstay in both cathodic protection and electrolysis applications.

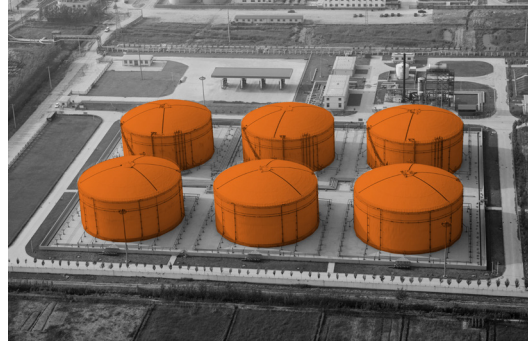
APPLICATIONS:

CATHODIC PROTECTION

Mixed Metal Oxide has become a jack of all trades for the Cathodic Protection industry. From tubular anodes in both conventional and deep ground-bed configurations, to linear groundbeds that closely follow pipelines and storage tanks with BADGERFLEX and ribbon and wire anodes, and even as an additive to reinforced concrete protecting our bridges, buildings and parking structures from degradation. The flexibility of mixed metal oxide comes from the plethora of shapes, sizes, and relatively high output to surface area ratio.

ELECTROLYSIS

Mixed metal oxide anodes exhibit many benefits over conventional materials used in electrolytic processes due to its long life and variable sizes. Perhaps the largest growing field for this product is the trivalent chrome industry. It is clear that government regulation is pushing more and more for hexavalent chrome operations to switch to the much more environmentally - and workplace - friendly trivalent chrome process. Mixed Metal oxide is ideal for long term anode life in these solutions, not to mention the ability to create custom auxiliary anodes to ensure proper coverage in even the hardest to reach corners of a part. Other applications for electrolysis include precious metal recoveries and electrowinning. Perhaps one of the most interesting applications for mixed metal oxide anodes is saltwater swimming pools. These pools are not chlorinated but instead use anodes to create chlorine gas to chlorinate the pool.



Please Contact Us to discuss how we can custom tailor a mixed metal oxide anode to your specific application with your existing parameters!

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MANUFACTURING PROCESS:

The introduction of mixed metal oxide to the cathodic protection industry was not without its bumps. By its nature mixed metal oxide creates large volumes of chlorine gas (the same reason it is an excellent choice in electrolysis systems) when they are in a working environment. This fact alone led to some changes in the finished product components, most notably the use of HALAR or Kynar coated cable for connections (standard HMWPE is susceptible to accelerated degradation when placed in high concentrations of chlorine gas).

While these initial setbacks did slow the growth of mixed metal oxide in the industry, engineers have developed standards that ensure a sound installation. American Carbon mixed metal oxide anodes go through a rigorous manufacturing and quality control testing process to ensure there are no unforeseen complications.

By using an automated process to manufacture our anodes, we have numerous points along the way to confirm the thickness and coating quality of the mixed metal oxide. The primary process used is called thermal decomposition to adhere the coating to the titanium substrate. This process is more than a paint as it creates a covalent bond between the titanium and the coating to ensure they act as one solitary material. Quality in the coating is paramount given the often high heat and highly acidic service environments these anodes are destined for.

In developing American Carbon mixed metal oxide anodes we have had the pleasure to private label many different specific shapes and output requirements to meet a specific requirement of our customers. These private labeled anodes can be constructed to the customer's proprietary requirements for their exclusive and specify use.

Please Contact Us to discuss your specific application.



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