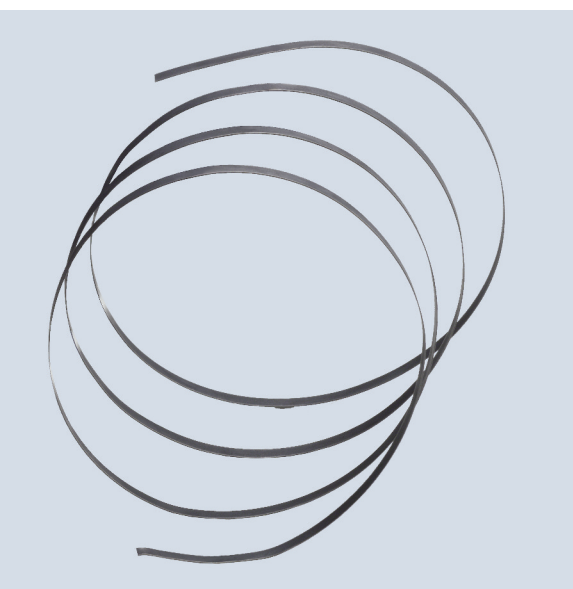
Optima™ Anodes
Ribbon Anodes for Cathodic Protection

Product Description

Optima™ ribbon anodes are ideally suited for cathodic protection applications. The mixed metal oxide coating is sintered to the titanium substrate, providing a lightweight, durable anode.

With the proprietary catalyst, Optima™ IOA-HF electrodes, are suitable for use in the widest range of cathodic protection applications including soil, carbonaceous backfill, fresh water, brackish water, and seawater.

The consumption rate of the mixed metal oxide coating is measured in milligrams per ampere-year. This low mass consumption rate combined with the unmatched strength-to-weight ratio for the titanium substrate results in unique advantages for the Optima™ anodes.



Key Benefits

- Lightweight–100 feet of the 1/4" (6.35mm) ribbon weighs slightly more than 1 lb
- Ductile–composite material eliminates the brittle issues encountered with graphite and silicon iron
- Dimensional stability eliminates issues associated with connection seals
- Compatible with a wide range of cathodic protection media (fresh water, coke, seawater, brackish water)
- Superior corrosion resistance compared to graphite, silicon iron, and other alternative materials
- Conveniently cut and welded in the field to suit various geometries

Optima™ Ribbon Anode Ratings

Ribbon Dimensions

Width:	0.25" (6.35mm)
Thickness:	0.025" (0.6mm)
Resistance:	4.2 ohms/100 ft
	4.2 ohms/30.5m

Amperage ratings in sand media for 20 year life of a 100-foot length of ribbon:

Part Number	Sand
TIP00GC-S	10 Amps

Optima™ Ribbon Anode Technical Details

The mixed metal oxide anode is comprised of a commercially pure titanium ribbon with a mixed metal oxide catalyst sintered to the titanium substrate in a thermal decomposition process. The catalyst is a combination of iridium oxide (IrO_2) and tantalum oxide (Ta_2O_5). When a solution of the coating is cured in the oven to convert it to the solid oxide, part of the titanium from the substrate diffuses into the matrix forming an integral bond between coating and substrate. The process requires temperature profile control and the amount of catalyst gained. The catalyst is applied in multiple steps until the desired loading is achieved.

Quality Assurance

- ASTM D3359 – measuring adhesion by tape test
- ASTM B265 Titanium – material certificates available
- Coating loading measurement – XRF and weight gain

Material Availability

Siemens Water Technologies can meet your requirements by stocking material to your specifications and shipping it on an as needed basis.

Custom Orders

Please contact us if you have special requirements. Special amperage requirements and catalytic coatings, including platinum, can be accommodated.

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