

# Dianodic\* III Cooling Water Treatment

- Stable in the presence of halogens
- Maximizes both mild steel and yellow metal corrosion protection
- Contains HRA (Halogen Resistant Azole) molecule
- Utilizes custom polymer package to optimize deposit control needs

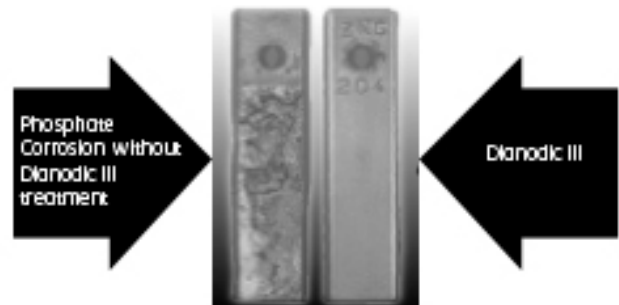
## Description and Use

Dianodic III cooling water treatment programs are designed for non-alkaline (pH 6.8 to 7.8), open recirculating cooling systems. These products are formulated to maximize mild steel and yellow metal corrosion control and prevent scale formation, even in the presence of halogen-based oxidizing biocides. Dianodic III is versatile and has been successful in a broad range of systems operating under varying conditions. The particular combination of ingredients required to give the desired results depends on the system metallurgy, temperature, water chemistry, and other system characteristics.

## Typical Applications

Dianodic III programs contain multiple corrosion inhibitors and polymeric dispersants to maximize corrosion and fouling control. First, inorganic phosphates are used to promote a gamma iron oxide film on mild steel heat transfer surfaces. This corrosion protection mechanism has proven effective in a variety of conditions through many years of experience.

The second component to this new, Dianodic III technology is the Halogen Resistant Azole (HRA). HRA is used for copper and copper alloy corrosion protection and, unlike former azole technologies, it is stable in the presence of halogens such as chlorine and bromine. This extends the life of mild steel equipment that is susceptible to pitting caused



**Corrosion performance of mild steel coupons under high halogenation conditions.**

copper corrosion products that cause galvanic corrosion cells.

The final component to Dianodic III is a package of calcium phosphate dispersants that can be used in various combinations to provide maximum fouling control. Each dispersant is both calcium and halogen stable. System characteristics and water chemistry will dictate the most cost-effective approach to maintaining efficient heat transfer. These polymers optimize phosphate solubility which maintain system cleanliness and maximize steel corrosion protection.

Every material used in Dianodic III is stable in the presence of halogens. This improves the stability and reliability of the program and provides an opportunity to improve system performance at reduced operating costs.

## Treatment And Feeding Requirements

**Dosage** - Proper treatment levels of Dianodic III products will vary with the individual formulation. These products should be used in accordance with control procedures GE Water & Process Technologies establishes for a specific application. For consistent protection, product feed should be continuous.



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**Dilution** - Dianodic III products should be fed neat (undiluted) to a point in the cooling system where they will be rapidly mixed with the bulk cooling water. Dilutions, if necessary, should be made with low hardness water.

**Feed Equipment** - Tanks, pumps, piping, and valves should be made of stainless steel, polyethylene, or most common plastics.

**Monitoring** - A photometric procedure can be used to monitor the phosphate level in the treated water.

## General Properties

Physical properties of the Dianodic III programs are shown on the Material Safety Data Sheet (MSDS), a copy of which is available on request.

## Packaging Information

Dianodic III products are available in 55-gallon (208-L) drums and through ChemSure\* Drumless Delivery Services. Contact your GE representative for details.

## Storage

Protect from freezing. If these products are frozen during shipment or storage, thaw completely and mix thoroughly to ensure homogeneity.

## Safety Precautions

An MSDS containing detailed information about this product is available upon request.