

# Corrosion Inhibitors

**Bulletin  
A80**

## Industrial Corrosion Inhibitors



Hoffman corrosion inhibitors protect

- Interior components of electrical enclosures, boxes, consoles, and wireways
- Interior components of electronic enclosures
- Electrical and electronic equipment and controls
- Parts and components that are packaged in crates during shipping and storage Switch gear and relay cabinets
- Interiors of pipes, conduits, and fuse boxes

- Process control computers, instruments, and recording devices
- Tool chest interiors and contents
- Equipment stored at construction sites

### Chief Advantages

- Protects against salt and high humidity
- Eliminates the need of oiling, plating, or dipping metal.
- Puts protected equipment to use immediately without degreasing or coating removal.
- Provides durable protection for up to 12 months.

### How They Work

Each inhibitor contains a special chemical combination that vaporizes and condenses on all surfaces in an enclosed area. Vapors will redeposit as needed in the event of condensation of moisture on surfaces. These vapors reach every part of an enclosure, protecting all interior components. Spraying, wiping, or greasing are not required. This eliminates precoating, special wraps, and drying agents. Protection is effective even in salt-water atmospheres. The AHCI5E and AHCI10E emitters have additional red-metal inhibitors for further protection. Enclosures containing corrosion inhibitors must be reasonably sealed.

### Life Expectancy And Usage

The normal useful life-span of Hoffman corrosion inhibitors is in excess of one year. However, inhibitor life expectancy is shortened by approximately 25% when exposed to temperatures above 104° F (40°C). This product is not recommended for use where temperature exceeds 199°F. Ventilated enclosures or enclosures not sealed properly, as well as frequent door openings, also shorten the product life. Additional inhibitors should be used if these conditions exist. Since Hoffman corrosion inhibitors are vapor-phase protective, all surfaces to be protected should be accessible to the vapors. The maximum distance the vapors can travel is approximately 1.50 feet (.46 meters). Protection of long narrow enclosures can be achieved with tape or multiple inhibitors.

## Storage And Handling

Each Hoffman corrosion inhibitor is individually packaged in a resealable bag for maximum effectiveness at the time of usage. Corrosion inhibitors should be stored at temperatures not exceeding 120°F (45°C). Recommended shelf life under normal conditions is one year. Hoffman corrosion inhibitors are not returnable. When determining the proper corrosion inhibitor for your application, assume the enclosure volume to be protected is greater than calculated if (1) cabinet doors are opened frequently, (2) cabinet is located in an extremely corrosive area, and/or (3) cabinet length divided by depth is greater than four.

### AHCI1DV

Foam device protects one cubic foot (28 liters) of enclosure volume for approximately one year. Size: .25 x 1.25 x 3.00 in. (6 x 32 x 76mm). Package quantity 50.

### AHCI60R

Tape protects sixty cubic feet of enclosure volume per roll. Use approximately 2.50" (6.3cm) of tape per cubic foot (28 liters) of enclosure volume to be protected. Each roll of tape is packaged individually in a resealable bag. Size: .25" x .75" x 12.00' (6mm x 19mm x 3.6m). Package quantity 3.

### AHCI240R

Tape protects 240 cubic feet of enclosure volume per roll. Use approximately 1.00" (2.5cm) of tape per cubic foot (28 liters) of enclosure volume to be protected. Each roll of tape is packaged individually in a resealable bag. Size: .25" x 2.00" x 20.00' (6mm x 51mm x 6.1m). Package quantity 1.

### AHCI5E

Emitter protects five cubic feet (142 liters) of enclosure volume for approximately one year. Emitters contain additional red metal (non-ferrous) inhibitors. Size: 2.50" (diameter) x 1.50" (high) (63mm x 38mm). Package quantity 25.

### AHCI10E

Emitter protects ten cubic feet (283 liters) of enclosure volume for approximately one year. Emitters contain additional red metal (non-ferrous) inhibitors. Size: 2.50" (diameter) x 2.00" (high) (63mm x 51mm). Package quantity 12.

### AHCI238S

Spray is a non-conductive, nonflammable, vapor phase film and is non-toxic. It has essentially neutral pH value. Application provides instant protection against corrosion. Spray is water soluble and can be easily flushed away with water if desired. This product should be kept from freezing, and has a shelf life of 2+ years in normal warehouse conditions. Package quantity 6.

Metal	Protected by Chemical	Unprotected by Chemical
Aluminum	Marked reduction of surface attack; no pitting	Severe surface attack; tarnish; pitting
Brass <sup>a</sup>	Decreased tarnish; very minor surface attack	Surface discoloration; pitting
Steel, iron	No change	Severe corrosion
Copper <sup>a</sup>	Slight staining	Heavy corrosive attack
Zinc Plate	Slight discoloration	Severe corrosion
Tin Plate	Slight discoloration	Moderate corrosive attack

<sup>a</sup> AHCI5E and AHCI10D are recommended for these materials.

Catalog Number	Enclosure Volume Protected
AHCI1DV	1 cu. ft. (28.32 liters)
AHCI5E	5 cu. ft. (141.6 liters)
AHCI10E	10 cu. ft. (283.2 liters)
AHCI60R	60 cu. ft. per roll (1699 liters)
AHCI240R	240 cu. ft. per roll (6797 liters)
AHCI238S	Corrosion Inhibitor Spray