



## **HUBBELL GARD® Product Specification**

### **Why Hubbell Gard Fasteners**

#### **PROBLEM:**

Corrosion resistant fasteners and support bolts used with aluminum lighting fixtures have historically been specified to be made of stainless steel. Due to electrochemical difference between the two metals, stainless steel fasteners can actually force aluminum fixtures to corrode. This phenomenon known as galvanic or dissimilar metal corrosion, can freeze fasteners into the fixtures, force wide spread formation of unsightly “white rust”, cause paint blistering and flaking, and may even lead to fixture failure.

#### **OBJECT:**

Utilize a corrosion resistant material, which prevents aluminum structures from “sensing” the presence of dissimilar metal fasteners.

#### **SOLUTION:**

Hubbell Gard treatment on fasteners.

- Features include:
- Prevents fastener induced corrosion of aluminum lighting fixtures
- Promotes easy servicing of aluminum fixtures by preventing fastener freeze-up
- Resists over 70 corrosive agents commonly found in industrial, coastal, agricultural and commercial environments
- Resists abrasion and scuffing typically encountered during fixture manufacture, installation, and use
- Allows the use of fasteners that are up to 25% stronger than comparable stainless steel fasteners
- Prevents screw heads from breaking due to Hydrogen embrittlement
- Maintains fixture appearance by preventing “red” rust, “white” rust, and paint blistering / flaking
- Stops corrosion induced drift of aiming direction

Hubbell Gard treated fasteners have a true superiority over stainless steel.

## CHEMICAL CORROSION RESISTANCE OF HUBBELL GARD COATING SYSTEMS

The following list is a guide to the corrosion resistance of Hubbell Gard. The Hubbell Gard coatings are not formulated for continuous immersion applications. However, the coatings can be used for splash zone and intermittent contact with many fluids. It is recommended that samples be tested in each specific environment before use since use temperature and chemical concentrations are also important.

<u>Chemical</u>	<u>Rating</u>	<u>Chemical</u>	<u>Rating</u>
Acetate Solvents, crude	VG	Benzene	E
Acetate Solvents, pure	VG	Benzine	E
Acetic Acid, crude	F	Borax	VG
Acetic Acid, pure	F	Boric Acid	VG
Acetic Acid vapors	F	Butane, Butylene, Butadiene	E
Acetic Anhydride	U	Calcium Bisulfite	F
Acetone	E	Calcium Hypochlorite	F
Acetylene	E	Cane Sugar Liquors	U
Alcohols	E	Carbon Dioxide (dry)	E
Aluminum Sulfate	F	Carbon Dioxide (wet and Aqueous solution)	F
Alums	F	Carbon Disulfide	U
Ammonia Gas	U	Carbon Tetrachloride	VG
Ammonium Chloride	VG	Chlorine (dry)	U
Ammonium Hydroxide	VG	Chlorine (wet)	U
Ammonium Nitrate	VG	Chromic Acid	F
Ammonium Phosphate	F	Citric Acid	G
(Ammoniacal)			
Ammonium Phosphate (Neutral)	F	Coke Oven Gas	U
Ammonium Phosphate acid	F	Copper Sulfate	F
Ammonium Sulfate	F	Core Oils	U
Asphalt	E	Cottonseed Oil	E
Beer	VG	Creosote	U
Beet Sugar Liquors	U	Ethers	F
Ethylene Glycol	E	Rosin (dark)	VG
Ferric Chloride	F	Rosin (light)	VG
Ferric Sulfate	F	Shellac	E
Formaldehyde	VG	Soda Ash	F
Formic Acid	F	Sodium Bicarbonate	G
Freon	E	Sodium Bisulfate	F
Furfural	F	Sodium Chloride	E
Gasoline (sour)	E	Sodium Cyanide	NR
Gasoline (refined)	E	Sodium Hydroxide	NR
Gelatine	E	Sodium Hypochlorite	F
Glucose	E	Sodium Metaphosphate	F

Glue	E	Sodium Nitrate	E
Glycerol	E	Sodium Perborate	F
Hydrochloric Acid	NR	Sodium Peroxide	F
Hydrocyanic Acid	F	Sodium Phosphate (Alkaline)	F
Hydrofluoric Acid	F	Sodium Phosphate (Neutral)	E
Hydrogen Fluoride	F	Sodium Phosphate (Acid)	F
Hydrogen	E	Sodium Silicate	E
Hydrogen Peroxide	F	Sodium Sulfate	E
Hydrogen Sulfide (Dry)	VG	Sodium Sulfide	F
Hydrogen Sulfide (Wet and Aqueous Solution)	VG	Sodium Thisulfate	VG
Lacquers and Lacquer Solvents	E	Sludge Acid	E
Lime – Sulfur	U	Stearic Acid	E
Magnesium Chloride	F	Sulfate Liquors	NR
Magnesium Hydroxide	F	Sulfur	E
Magnesium Sulfate	VG	Sulfur Chloride	NR
Mercuric Chloride	VG	Sulfur Dioxide (dry)	E
Mercury	E	Sulfur Dioxide (wet)	F
Milk	E	Sulfuric Acid, 10%	F
Molasses	E	Sulfuric Acid, 10% – 75%	NR
Natural Gas	E	Sulfuric Acid, 75% - 95%	NR
Nickel Chloride	F	Sulfuric Acid, 95%	NR
Nickel Sulfate	F	Sulfurous Acid	F
Nitric Acid	NR	Tar	E
Oleic Acid	E	Tartaric Acid	F
Oxalic Acid	F	Tolueneroethylene	E
Oxygen	E	Trichloroethylene	VG
Plasmatic Acid	E	Turpentine	E
Petroleum Oils (sour)	VG	Varnish	E
Petroleum Oils (refined)	E	Vegetable Oil	E
Phosphoric Acid 25%	NR	Vinegar	F
Phosphoric Acid 25% - 50%	NR	Water (acid mine water)	F
Phosphoric Acid 50% - 75%	NR	Water (fresh)	E
Picric Acid	VG	Water (salt)	E
Potassium Chloride	E	Whiskey	E
Potassium Hydroxide	NR	Wines	VG
Potassium Sulfate	E	Xylene	E
Propane	E	Zince Chloride	F
		Zinc Sulfate	F

**KEY:**

E = Excellent

VG = Very Good

G = Good

F = Fair

NR = Not recommended\*

U = Unknown\*

\* = Testing under the specific use conditions should be performed