Bard Cabinet Finishes, Coil Coatings, and Cabinet Corrosion Coating Options

Bard understands that corrosive environments require special cabinet finishes or component coatings to withstand harsh or corrosive outdoor conditions. These conditions may be encountered at various locations, and the following example installations may require the use of additional protective options:

- Wastewater treatment plants
- Gas and oil refinery operations
- Battery manufacturers
- Sulfur water areas
- Pulp and paper mills
- Wineries
- Chemical Plants
- Salt water coastal installations
- Mining industry
- Airports

Bard SINCE 1914

/////// UNIT NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
W	3	6	A	*	*	*	*	*	*	*	*	*	*	*

CABINET MATERIAL AND COLOR

X - **Beige** painted cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03.

1 - **White** painted cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03.

4 - **Buckeye Gray** painted cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03.

5 - **Desert Brown** painted cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03

8 - **Dark Bronze** painted cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03.

S - **Stainless Steel** cabinet with 316 grade materials. Screws, washers, nuts, and bolts are stainless steel. Stainless Steel finish cabinets are often selected for corrosion and chemical resistance. Higher grades of stainless steel are often specified to meet the requirements of harsh environments. Units may not only be exposed to windblown dust, dirt, lint, and fibers but also may be exposed to corrosive agents. The Bard stainless steel unit offers a high quality stainless steel grade enclosure and fasteners for years of operation in these conditions.

A - **Aluminum** exterior cabinet finish. Aluminum exterior finish cabinets are available for most unit models. The exterior sides, door panels, and service access doors are of a stucco textured Aluminum 3003 H14 material with excellent corrosion resistance. Exterior cabinet screws and fasteners use a Magni 550 coating system. Parts coated to this specification are capable of withstanding salt spray testing for a minimum of 1000 hours with no red rust.

EVAPORATOR COIL, CONDENSER COIL, AND CABINET COATING OPTIONS

X - The evaporator coil is copper and aluminum construction. The **evaporator coil has a green protective coating** applied to the aluminum fin stock used for the evaporator coil. The evaporator coil coating is hydrophilic (attracts water) and allows for proper condensate drainage along with mild corrosion protection. Resistance to corrosive agents include ammonia, sodium hydroxide, sodium chloride, acidic solutions and solvents. The condenser coil is of copper and aluminum construction with standard aluminum fins.

1 - The evaporator coil is copper and aluminum construction. The evaporator coil has a green protective coating applied to the aluminum fin stock used for the evaporator coil. A secondary **coating of Technicoat AA is applied by dipping the evaporator coil** to ensure corrosion protection is applied to the inner core of the coil fin pack. The condenser coil is of copper and aluminum construction. This option offers additional protection to the evaporator coil inside the wall mount unit.

2 - The evaporator coil is copper and aluminum construction. The evaporator coil has a green protective coating applied to the aluminum fin stock used for the evaporator coil. The condenser coil is of copper and aluminum construction. A **coating of Technicoat AA is applied by dipping the condenser coil** to ensure corrosion protection is applied to the inner core of the coil fin pack. This option offers additional protection to the condenser coil that is exposed to outdoor conditions in the condenser section of the wall mount.

3 - The evaporator coil is copper and aluminum construction. The evaporator coil has a green protective coating applied to the aluminum fin stock used for the evaporator coil. A secondary **coating of Technicoat AA is applied by dipping the evaporator coil** to ensure corrosion protection is applied to the inner core of the coil fin pack. The condenser coil is of copper and aluminum construction. A **coating of Technicoat AA is applied by dipping the condenser coil** to ensure corrosion protection is applied to the inner core of the coil fin pack. This option offers additional protection to the evaporator coil inside the wall mount unit and offers additional protection to the condenser coil that is exposed to outdoor conditions in the condenser section of the wall mount.

4 - The evaporator and condenser coil are of copper and aluminum construction. Both coils are dipped in Technicoat AA to ensure corrosion protection is applied to the inner core of the coil fin pack. Devran and Devthane cabinet coatings are applied to the condenser section. Copper and functional components inside the exterior exposed condenser section are corrosion protection coated. This option offers the **best protection for all condenser section components** against weatherization and outdoor chemical exposure.

5 - The evaporator and condenser coil are of copper and aluminum construction. Both coils are dipped in Technicoat AA to ensure corrosion protection is applied to the inner core of the coil fin pack. Devran and Devthane cabinet coatings are applied to the internal and external cabinet components including blower assembly, drain pan, brackets, doors, panels, top, and condenser section. Copper and functional components inside the interior of the unit and exterior exposed condenser section are corrosion protection coated. This option offers the **best protection for all internal and external components** against weatherization and indoor and outdoor chemical exposure.

/////// STANDARD CABINET AND COLOR FEATURES

Standard painted Bard cabinet construction is comprised of Zinc coated steel. Parts are cleaned, rinsed, sealed, and dried before a polyurethane primer is applied. The cabinet coating is completed with a baked on textured enamel. The resulting finish is designed to withstand 1000 hours of salt spray tests per ASTM B117-03. Cabinet coatings can be applied to the standard wall mount cabinet for additional corrosion protection. Cabinet coating options applied by Bard (options 4 and 5) will be color matched to the original unit cabinet color.

Painted steel cabinets are available in a variety of different colors:

X - Beige
1 - White
4 - Buckeye Gray
5 - Desert Brown
8 - Dark Bronze

/////// STAINLESS STEEL CABINET FEATURES

Exterior Stainless Steel finish cabinets are often selected for corrosion and chemical resistance. Higher grades of stainless steel are often specified to meet the requirements of harsh environments. Units may not only be exposed to windblown dust, dirt, lint, and fibers but also may be exposed to corrosive agents. The Bard stainless steel unit offers a high quality stainless steel grade enclosure and fasteners for years of operation in these conditions.

Features:

- Sides, doors, grilles, back panels, and top are 316 grade stainless steel.
- Stainless steel exterior cabinet screws, washers, nuts, and bolts are used.
- Stainless steel outdoor motor mount and motor mount hardware.
- Compressor mounting hardware is stainless steel and hex no-spin rivet nuts are used in the unit base.
- Corrosion resistant coating is applied to fan blade.

Cabinet coatings can be applied to the stainless steel wall mount cabinet for additional corrosion protection. Cabinet coating options applied by Bard (options 4 and 5) over the stainless steel product will be gray in color.

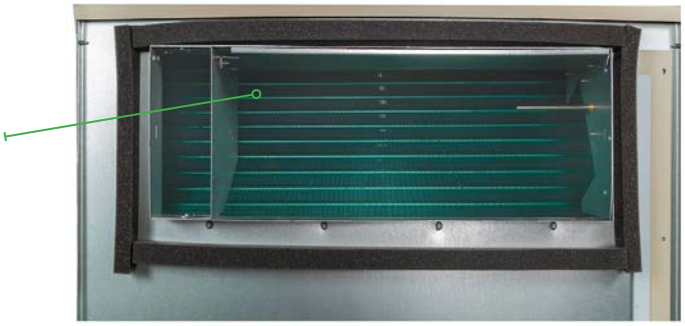
Bard highly suggests units exposed to extremely harsh environments, high quantities of airborne dirt and dust, or sprayed with water hose and splashing water be ordered with the Blank Off Plate (BOP) ventilation option. The BOP ventilation option installs plates over the fresh air intake and exhaust openings providing the best protection against wind-blown dust, dirt, water, and ice.

/////// ALUMINUM CABINET FEATURES

Aluminum exterior finish cabinets are often selected for reduction in unit weight, and corrosion resistance. Aluminum exterior finish cabinets are available for most unit models. The exterior sides, door panels, and service access doors are of a stucco textured Aluminum 3003 H14 material with excellent corrosion resistance. Exterior cabinet screws and fasteners use a Magni 550 coating system. Parts coated to this specification are capable of withstanding salt spray testing for a minimum of 1000 hours with no red rust.

/////// STANDARD GREEN FIN COATED EVAPORATOR COIL

Green Fin Protective Evaporator Coil Coating: A hydrophilic fin coating is provided that aids with the condensate drainage of the coil. By shedding water from the coil fin surface, it allows moisture to be removed and minimizes moisture re-introduction into the space being conditioned. Moisture removal aids with the reduction of bacteria and growth. It also provides moderate resistance to corrosive agents including the following:



- Acidic Brine
- Salt Spray
- Boiling Water
- Ammonia 26 Baume
- Gasoline
- Kerosene
- 1 N Sodium Hydroxide
- Glacial Acetic Acid
- 70% IPA
- Spray cleaners
- Bleach

/////// OPTIONAL DIP COATED EVAPORATOR AND CONDENSER COIL

Bard now offers TECHNICOAT AA, a robust dipped coating option for the evaporator and condenser coil. TECHNICOAT AA has passed all HVAC accelerated tests like salt spray, flexibility and SWAAT 3,000+ hours. It has been tested in the field in the most severe industrial exposure conditions, such as a coastal refinery in Saudi Arabia, mining facilities in central Africa, and various Pacific islands. TECHNICOAT AA did not show any deterioration after multiple years of function with coils directly exposed to such harsh environmental conditions. The TECHNICOAT AA coating system is based on modified acrylic waterborne binders with high elongation properties. Aluminum pigmentation has been added to establish exceptional heat transfer, chemical resistance, and UV blocking properties. Corrosion resistance reaches >10,000+ hours in ASTM B-117 and >3,120 hours in SWAAT testing. Coating is gray in color.

TEMPERATURE RESISTANCE:

- Maximum up to 248°F (120°C), 480°F (250°C) peak exposure
- Minimum -40°F (-40°C)

CHEMICAL RESISTANCE:

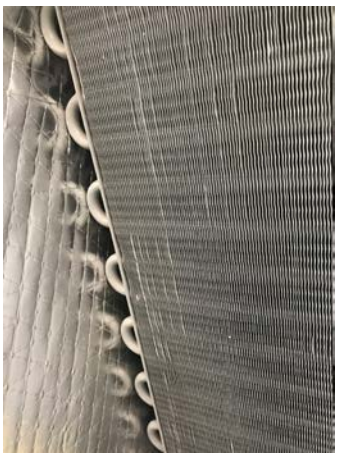
- Alkalines including Ammonaic solution, Potassium Hydroxide, Calcium Hydroxide, and Magnesium Hydroxide.
- Alcohols including Isopropanol, Butanol, Amyl Alcohol, Benzyl Alcohol, Diaceton Alcohol, Glycerine, Propanol, and Pentanol
- Aliphatic Hydrocarbons including White Spirit, Shellsol, Bitumen, Isopar G, and Paraffin.
- Amines including Triethanolamine, Aniline Sulphate, Hexamethylenetetraamine, Phenyldiamine, Triethylamine, and Methylamine.
- Inorganic Compounds including Hydrogen Carbonate, Hydrogen Sulfide, Nitrous Acid, Sulphuric Acid, and Selenic Acid.
- Aromatic Hydrocarbons including Xylene, Toluene, Asphalt, Anthracene, Benzapherene, Gumlac, Benzine, and Naphtha.
- Fuels and Oils including Diesel, Fuel Oil, Petrol, Super Petrol, Lubricating Oils, Kerosene, Spheric Oils, LPG, and Mineral Oil.
- Ethers including Enthric Oils, Vegetable Oils, Butane, Acetylene, and Methane.
- Halogenated Hydrocarbons including Amyl Acetate, Propyl Acetate, Ethyl Oxalate, Butyl Acetate, and Butyl Propionate.
- Softeners including Palatinol C, Chloraparaffine 5XX, Dioctylphosphate, Desavin, Mesamol, and Dibutylphosphate.
- Organic Compounds including Benzoic Acid, Lactic Acid, Phenols, Fatty Acids, Malic Acid, and Picric Acid.
- Salts and water solutions including Sodium, Potassium, Calcium, Aluminum, Ammonium, Barium, Copper, Lead, and Lithium.
- Many other agents including Phosphor, Zinc, Glucose Syrup, Sulfur, Urea, Menthol, Antimony, Hydrogen, Rubber, and Shellac.

Contact your local Bard distributor or representative for a list of all chemicals and chemical resistance information.

SPECIAL PROPERTIES:

- Anti-Odor
- Hydrophilic / Hydrophobic
- Anti-Corrosive

EXPOSURE CONDITIONS INCLUDE:
Food Processing & Storage, Airports, Office Buildings, Hotels, Schools, Warehouses, Water Treatment, Breweries, Paper Mills, Refineries, Power Plants, Meat Processing Industries, Automotive Industries and other locations near shorelines and salt water.



/////// CABINET COATING OPTIONS

Bard offers a high performance, multipurpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating for wall mount unit cabinets. Two options are available to offer additional equipment protection for applications in chemical processing, fertilizer storage areas, power plants, petroleum refineries, pulp and paper mills, water and sewage treatment plants and mining operations.

Adhesion: (ASTM D 4541) – Excellent
Salt Spray Resistance: (ASTM B 117) – Excellent
Direct Impact Resistance: (ASTM D 2794) – Very Good
Abrasion Resistance: (ASTM D 4060) – Excellent
Humidity Resistance: (ASTM D 2247) – Excellent
Exterior Exposure: (45° South – Lt. Industrial) – Very Good (Normal, expected loss of gloss for epoxy coatings)
Chemical Resistance*: (ASTM D 1308 – 24 hr. contact) – Excellent. Resists splash and spillage of alkalies, salts, moisture, oils, greases, food stuffs, and detergents, 50% sodium hydroxide, 28% ammonia, 5% trisodium phosphate, 25% citric acid, 25% lactic acid, 10% sulfuric acid, crude oil, 10% hydrochloric acid, 20% tannic acid, 5% sodium chloride, 10% ammonium hydroxide, sewage, 50% ethanol, gasoline, methanol, kerosene, naphtha, xylol.
* All results based on testing of system comprised of two coats at 4 mils (100 microns) DFT per coat.

Condenser section and coil coating option #4 includes TECHNICOAT AA dipped evaporator and condenser coils. Exterior outdoor exposed components inside the condenser section are coated with Devran and Devthane coatings.

Unit and coil coating option #5 includes TECHNICOAT AA dipped evaporator (indoor) and condenser (outdoor) coils. All **interior and exterior** outdoor exposed components are coated with Devran and Devthane coatings.

Property	Method	Result
Abrasion Resistance	ASTM D 4060, CS-17, 1000 gram load, 1000 cycles	69 mg loss
Accelerated Weathering	ASTM G 53, UVB 313, 5000 hours	92% gloss retention
Adhesion	ASTM D 4541	800psi
Exterior Exposure	Exposed in Florida facing 45° South for 3 years	No blistering, cracking or loss of adhesion. Less than 15% loss of gloss.
Humidity Resistance	ASTM D 4585, 1000 hours	No blistering, cracking, softening, or loss of adhesion.
Pencil Hardness	ASTM D 3363	4H
Salt Fog Resistance	ASTM B 117, 1000 hours (no primer)	No effect on film integrity or adhesion. Less than 1/8 inch undercutting at scribe. Less than 5% rusting at edges.
Stain Resistance	ASTM D 1308, 1 week contact at 77°F. Crayon, lipstick, coffee, soil medium, show polish, grape juice, ink, marker, spray paint.	Stains were removed with detergent and water or Xylene or MEK, or Graffiti Cleaner.

/////// LEAD TIME AND WARRANTY INFORMATION

Lead times and delivery - Unit coating processes normally require extended lead times. Contact Bard at time of unit order for the estimated product delivery date. Additional shipping costs may apply.

Warranty Information- Standard cabinet finish parts and coils are covered by the Bard warranty policy. See document #7960-420. Condenser section and entire unit coating (options #4 and #5) warranties are supplied by MJC Inc. Please review and complete all warranty information provided with the unit. Typical unit coating warranty is for one year. Visit www.mjcinc.com for further details.

/////// NOTES

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Due to our continuous product improvement policy, all specifications subject to change without notice.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.