



product  
information

**8100-EMIK**  
WATERBORNE ACRYLIC  
BAKING ENAMEL

**Cardinal's 8100-EMIK** waterborne conductive black thermosetting acrylic waterborne enamel is manufactured to meet strict air quality regulations. This product line has been designed to achieve the physical properties of commercially available solvent based thermosetting enamel while minimizing environmental impact. It can be applied to a wide variety of interior products.

**TYPICAL USES:**

- General metal finishing:
  - Computer enclosures
  - Office furniture
  - Business machines
  - Shelving
  - Electrical chassis

**BENEFITS:**

- Free of Hazardous Air Pollutants (HAPS)
- Extremely low VOC content
- Low fire hazard
- Ease of application
- Excellent chemical and abrasive properties
- RoHS / WEEE Compliant

**CURED FILM PROPERTIES:**

Testing conducted on 8100-EMIK flat black at 1.5 mils Dry Film Thickness (DFT) over 20 gauge Bonderite 1000® test panels cured 30 min. at 300°F then air dried for 14 days.

TEST	METHOD	PARAMETERS	RESULT
Impact:	ASTM D2794	Direct Reverse	40 in. lbs. 40 in. lbs.
Flexibility:	ASTM D1737	1/8" mandrel	No cracking
Salt Spray:	ASTM B117	100 hrs 95 , 5% salt solution	No Effect
Abrasion:	ASTM D4060	CS-10 wheels, 1kg, 1000 cycles	Less than 400 mg loss
Humidity::	ASTM D2247	100 hours	No effect

**SURFACE PREPARATION AND PRIMING:** The most important steps in a successful coating process are cleaning, pretreatment and priming. The following is a brief outline of some basics for unpainted substrates. It is not intended to be all-inclusive. For more information on your particular application contact Cardinal.

**Cleaning the substrate:** All surfaces to be coated, must be free of dirt, grease, oil, oxidation, mill scale, and all other contaminants. The surface must be thoroughly dry before painting. Air quality regulations in your area may have limited the allowable emissions from cleaning operations.

**Steel** — A phosphate chemical conversion coating is highly recommended. When this is not possible, a vinyl acid wash pretreatment primer is recommended such as Cardinal's 4860 series primers.

**Aluminum** — A chemical conversion coating is highly recommended. When this is not possible, a vinyl acid wash pretreatment primer is recommended such as Cardinal's 4860 series primers.

FOR INDUSTRIAL USE ONLY  
NOT FOR RESIDENTIAL USE

**TYPE:** Acrylic - melamine thermoset

**COLORS:** Black

**GLOSS:** Flat, <10 degrees

**COVERAGE:** 365 sq.ft. @ 1 mil DFT @ 65% TE  
Calculation: 1604 ft<sup>2</sup>/gal x % volume solids x TE ÷ DFT

**VOC:** 263 grams/liter (2.20 lbs./gal. less water)  
86 grams/liter (0.70 lbs./gal. including water)

**VOLUME SOLIDS:** 23%

**FLASH POINT:** >212° F TCC

**SHELF LIFE:** 1 Year from date of manufacture in unopened factory sealed container.

**APPLICATION:** This material is designed for spray application. Brushing or rolling are not recommended.  
*Texturing:* Apply smooth base coat and air dry 10-15 min. or bake 5 min. at 300°F. Use a pressure pot and apply texture coat by lowering atomizing pressure and increasing fluid pressure to spatter paint onto base coat. The lower the atomizing pressure, the larger the texture.

**THINNING:** Ready for spray: If thinning is necessary, use water, 1% - 5% by volume. Do not reduce below 40" Zahn #3.

**VISCOSITY:** 40 - 45 seconds, #3 Zahn cup at 78° F.

**RECOMMENDED DFT:** 1.0 – 2.0 mils

**CURE:** Flash off 15 minutes before baking. Paint will not cure below 225°F.

Bake

30 min at 300° F

45 min at 275 F

**RESISTANCE:** 40 ohms Bonderite / 10-20 ohms CRS

**APPLICATION EQUIPMENT:**

**CAUTION:** Electrostatic equipment needs to be properly isolated for waterborne use.

Fluid and air hoses should be a minimum of 3/8" for fluid and 5/16" for air.

**EQUIPMENT CLEAN-UP:** Warm water. Water should always be used for primary cleaning. If something stronger is needed exempt solvents can be used for secondary cleaning, air quality regulations, in your area may have limited the allowable emissions from cleaning operations.

**PRODUCT LIMITATIONS:**

AVOID FREEZING — Product contains water.

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**PRIMER SELECTION:**

PRODUCT NO.	DESCRIPTION	FUNCTION
3860-50	W/B Anti-corrosion Primer	Corrosion inhibiting and adhesion.
3860-1	Wash primer activator	Promotes adhesion
4860 series	Acid wash primer	Promotes adhesion

\*\* W/B = identifies WaterBorne product

**RELATED PRODUCTS:**

PRODUCT NO.	DESCRIPTION
3660-10	Surfacer primer
A-2000	Aerosol lacquer touch-up
A-4100	Aerosol acrylic enamel touch-up

**TROUBLE SHOOTING:**

PROBLEM	CAUSE	REMEDY
Too thin / low viscosity	Over reduced. pH too low (evaporation from open container).	Contact Cardinal representative for possible rework.
Dry spray	High atmospheric temperature.	Increase fluid pressure & decrease atomizing pressure. Reduce with water: 1% - 2%. Add SB-11 at rate of 1 oz. /gal. Add A-14 flow additive, 1 oz. /gal.
Flash rusting	Cold and/or humid weather. Cold substrate. Over reduced.	Warm paint and parts to 70° - 80°F. SB-15 at 1 oz. /gal may help.
Mudcracking	Over reduced Film build too high.	SB-15 at 1 oz. /gal may help. Lower the film build.
Craters	Contamination of substrate, application equipment or environment.	Find and eliminate source of contamination.
Poor adhesion	Improper surface preparation. Film too thin to coalesce properly.	See surface preparation section. Increase film build.

SILKSCREEN – Adhesion may be difficult. Shorten bake time from 30 minutes to 20 minutes. Always pre-test silkscreen products and process for desired results before starting production. Contact your ink supplier for specific recommendations prior to application.

**SAFETY:** Contains organic solvents. Use with adequate ventilation - do not breath vapors or spray mists. If component TLVs are exceeded, a NIOSH approved air supplied respirator is advised. See MSDS for TLV information.

Keep from heat, sparks or open flame.

Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**First Aid:**

*Eye contact*, flush immediately with plenty of water for at least 15 min. and get medical attention.

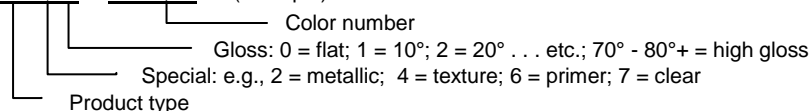
*Skin contact*, wash thoroughly with soap and water for 5 minutes.

*If swallowed*, do not induce vomiting and get medical attention immediately.

*Inhalation*, remove to fresh air.

**PRODUCT IDENTIFICATION**

**8100-EMIK** (example)



G12TL

**IMPORTANT: Warranty and Disclaimer** — The performance characteristics of these products vary according to product application, operating conditions, materials applied to or with and use. Since these factors can affect results, we strongly recommend that you make your own test to determine to your satisfaction whether the product is of acceptable quality, has not been affected by storage or transport and is suitable for your particular purpose under your own operation conditions prior to using any product in full scale production. Seller warrants the products to be free from defects in materials and workmanship. SUCH WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. No representative of ours has authority to waive or change this provision, which applies to all sales of these products.