



product
information

3860-SERIES LOW CURE WATERBORNE PRIMER

Cardinal's 3860-4702 primer gray is a fast drying, low cure waterborne rust inhibiting primer designed to promote adhesion on metal substrates and surface protection prior to a topcoat. This product can be top coated with several of Cardinal's low VOC finishes, such as our 3600, 6400 and 8100 series products.

Typical Uses:

- Intermediate for 2-component system
- General metal

Benefits:

- Low VOC content
- Low fire hazard
- Water clean up
- Ready to spray
- RoHS / WEEE Compliant

Cured Film Properties:

Testing conducted on 3860-4702 primer gray at 1.5 mils DFT (Dry Film Thickness) over 20 guage Bonderite 1000® test panel, force dried 30 min. at 180°F then air dried for 14 days.

TEST	METHOD	PARAMETERS	RESULT
Impact:	ASTM D2794	Direct	30 in. lbs.
Flexibility:	ASTM D1737	¼" mandrel	No cracking
Hardness:	ASTM D3363	Pencil	HB - F

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. The proper preparation of various substrates will require specific attention.

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.

Steel — A phosphate chemical conversion coating is highly recommended. We recommend our W-303-A Acid Metal conditioner.

Aluminum — A chemical conversion coating is highly recommended. When this is not possible, Cardinal's 4860 pretreatment primer is recommended.

For more information on your application, contact Cardinal.

FOR INDUSTRIAL USE ONLY NOT FOR RESIDENTIAL USE
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Type: Acrylic Emulsion

Components: One

Colors: Gray, White, Red Oxide, Black, Yellow Oxide
Custom colors available in 25 gallon minimum orders.

Gloss: 0 - 4° @ 60° ∠

Coverage: At 1 mil DFT
600 ft²/gal at 100% transfer efficiency (TE)
400 ft²/gal at 65% transfer efficiency
Calculation: 1604 ft²/gal x % volume solids x TE ÷ DFT

VOC : (as supplied)
220 grams/liter (1.83 lbs/gal) less water.
115 grams/liter (0.96 lbs/gal) including water.

Volume Solids: 40 - 45%

Flash Point: >212° F TCC

SHELF LIFE: 6 months from date of manufacture in factory sealed container.

Application: See surface preparation and priming section. This material is designed to be applied at high viscosity. Brushing or rolling are not recommended.

Thinning: Ready for spray. Mix well. If thinning is necessary, use water, 1% - 5% by volume. Avoid over thinning.

Viscosity: 35 - 45 seconds, #3 Zahn cup at 78° F.

Recommended DFT: 1.0 – 2.0 mils

Cure:	Force Dry	Air Dry
Flash off	10 – 20 min.	Tack free 15 min.
Bake cycle:		Dry to handle 1 hr.
	20 min. at 140°F	Dry to sand 2 hrs.
		Recoat 2 hrs.

(At 1.5 mils dry film thickness, 78° F, 50% RH)

Application Equipment: Electrostatic or high volume low pressure (HVLP) spray guns.
CAUTION: Electrostatic equipment requires proper isolation 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.

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Related Products:

PRODUCT NO.	DESCRIPTION / FUNCTION
SB-11	Slow waterbase co-solvent
SB-09	Medium waterbase co-solvent, coalescing agent
AMON	Raises pH of paint
A-60	Flash rust additive

Trouble Shooting:

PROBLEM	CAUSE	REMEDY
Too thin / low viscosity	Over reduced. pH too low (evaporation from open container).	Contact Cardinal representative
Dry spray	High atmospheric temperature. Over atomization Gun to part distance	Add SB-30 or SB-11 at rate of 1 oz./gal. Decrease air pressure. Decrease gun to part distance
Flash rusting	Cold and/or humid weather. Cold substrate. Over reduced.	Warm paint and parts to 70° - 80°F. SB-09 at 1 oz./gal may help.
Mudcracking	Over reduced Film build too high.	SB-09 at 1 oz./gal may help. Lower 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.

Product Limitations:

- AVOID FREEZING — Product contains water.
- Optimum film properties depend on force cure.
- See Cure section

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 minutes, seek medical attention.

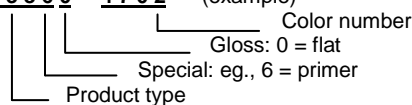
Skin contact, wash thoroughly with soap and water for 5 minutes.

If swallowed, do not induce vomiting, seek medical attention immediately.

Inhalation, remove to fresh air.

Product Identification

3 8 6 0 - 4 7 0 2 (example)



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