



product
information

4860 SERIES
ACID ETCHING PRETREATMENT
PRIMERS

Cardinal's 4860 SERIES are two component, solvent borne, acid etch wash primers designed for adhesion and corrosion protection. Besides excellent corrosion protection the 4860 Series are compliant to spray at 420 g/l and easy to apply. This product is not recommended for use on previously painted parts or plastics.

Part Number / Color: 4860-10 White 4860-52 Green
 4860-4702 Gray 4860-5829 Black

TYPICAL USES:

- General metal enclosures
- Utility trailers
- Auto After-market.

BENEFITS:

- Designed to promote adhesion when chemical conversion coatings are not practical.
- RoHS / WEEE Compliant

CURED FILM PROPERTIES:

Testing conducted on 4860-52 then top coated with 6409-10 gloss white catalyzed with 340HP at 1.5 mils DFT (Dry Film Thickness) over 20 gauge sanded aluminum test panels, cured 30 minutes at 180°F and air dried 14 days.

TEST	METHOD	PARAMETERS	RESULT
Salt Spray	ASTM B117	1500 hrs on sanded Aluminum	No effect
Humidity	ASTM D2247	2000 hrs	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 have limited the allowable emissions from cleaning operations.

Aluminum — Cardinal's 4860 Series pretreatment primers are to be used when a Aluminum chemical conversion coating is not possible.

Galvanized — Cardinal's W-303-A surface preparation solution helps improve adhesion followed by a vinyl acid wash pretreatment primer such as Cardinal's 4860 Series primer.

Magnesium Alloy — Cardinal's 4860- Series pretreatment primers are to be used when a Aluminum chemical conversion coating is not possible.

Stainless Steel — White metal blast cleaning per SSPC-SP 7 / NACE No.1 to a uniform profile of 1.5 mils. Cardinal's W-303-A surface preparation solution can help improve adhesion followed by a vinyl acid etching pretreatment primer such as 4860 Series

FOR INDUSTRIAL USE ONLY
NOT FOR RESIDENTIAL USE

TYPE: Acid etching pretreatment primer.

COMPONENTS: Two.

COLORS: Black, Green, Gray and White.

GLOSS: 0 – 5° Flat @ 60° ∠

COVERAGE: At 0.5 – 1.0 mil DFT (Dry Film Thickness)

65% transfer efficiency (TE)

Mixed paint, 3.5 lbs/gal : 112 ft²/gal.

Calculation: 1604 ft²/gal x % volume solids x TE ÷ DFT

VOC MIXED:

	Coating VOC less exempt	Coating VOC including exempt
4860 Primer	<295 g/l (2.5 lbs/gal)	<81 g/l (0.68 lbs/gal)
1000-52 Activator	755 g/l (6.29 lbs/gal)	37 g/l (0.31 lbs/gal)
Mixed 1 part 4860	<420 g/l (3.5 lbs/gal)	51 g/l (0.43 lbs/gal)
2 parts 1000-52	0.5% Acid by Weight Minimum	<12% Non-Volatile Weight

VOLUME SOLIDS: 17 – 18% 6 – 7% mixed

FLASH POINT: -4°F method / TCC

SHELF LIFE: 1 year from date of manufacture in factory sealed container at 50° to 100° F.

APPLICATION: All types of conventional spray equipment or HVLP may be used. A dry film of 0.5 – 1.0 mil must be applied; at this film thickness a transparent coating will be produced. Heavier film thickness will be detrimental to the complete coating system.

MIXING: Two components must be mixed properly to obtain coating performance.

COMPONENT	PARTS BY VOLUME
4860 PRIMER	1
1000-52	2

VISCOSITY: Mixed - 16" - 18" #2 Zahn

SPRAY-able Pot Life: 8 hours after mixing.

RECOMMENDED DFT: 0.5 – 1.0 mil dry film thickness

CURE:	Air Dry @ 70°F + 50% RH @ 3 mil
Set to Touch	15 min.
Dry Hard	30 – 60 min.

Time to Topcoat 1 hr.* or 3 hrs.**

* for solventborne topcoats ** for waterborne topcoats

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NO WARRANTY EXPRESSED OR IMPLIED, ACCEPTABILITY TO BE DETERMINED BY USER, SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

RELATED PRODUCTS:

PRODUCT NO.	DESCRIPTION
1000-13	Fast Exempt Reducer
HP-439	Medium Exempt Reducer

TROUBLE SHOOTING:

PROBLEM	CAUSE	REMEDY
Blisters, pin holes or solvent pop	Water contamination. Entrapped air. Entrapped solvent	Eliminate water – Check air lines. Use fresh catalyst. Use urethane grade thinners. Increase atomization, decrease film build.
Craters	Contaminated ambient air, e.g., silicone mist, dust.	Locate and eliminate source of contamination.
Fish-eyes	Substrate contamination.	Clean and prepare substrate.
Poor adhesion	Improper surface preparation.	See surface preparation section.

APPLICATION EQUIPMENT: Most air quality regulations require the paint application transfer efficiency to be 65% or better. This can be accomplished by using HVLP spray guns; otherwise, conventional pressure feed, airless or air assisted airless spray equipment can be used. Air supply lines need water and oil traps.

EQUIPMENT CLEAN-UP: Clean up should be done as soon as possible keeping in mind the pot life of the mixed paint. Air quality regulations have limited the allowable emissions from cleaning operations. Strong solvents such as acetone provide adequate cleaning.

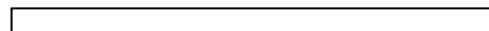
PRODUCT LIMITATIONS:

- This product is designed for adhesion promotion only
- De-lamination may occur at a higher film thickness
- Do not store mixed material in contact with metal containers

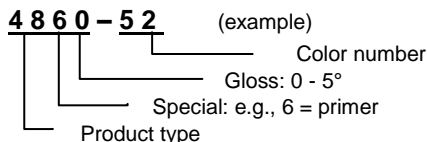
SAFETY: Refer to the product's Safety Data Sheet (SDS) for complete safety information. Contains organic solvents. Use with adequate ventilation. Do not breathe vapors or spray mists. If component TLVs are exceeded, a NIOSH approved air supplied respirator is advised. See SDS for TLV information. Contents are FLAMMABLE. Keep from heat, sparks or open flame. Allergic reactions are possible. Avoid use by persons with respiratory problems. 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.



PRODUCT IDENTIFICATION



F17TL

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.