



product
information

4900 SERIES 1.9

GLOSS ALKYD AIR DRY ENAMEL LOW VOC

Cardinal's 4900 series is a quality, quick dry, single component solvent-borne alkyd enamel formulated in high gloss and conforms to VOC requirements. This product is designed for a variety of metallic substrates including: cold and hot rolled steel, galvanized steel, aluminum and can be used direct to metal for exterior and interior surfaces.

TYPICAL USES:

- Heavy equipment
- Utility trailers
- Farm Equipment
- Waste management equipment
- Ornamental iron work

BENEFITS:

- Fast dry
- Good gloss retention
- Good color retention
- Single component
- Low VOC
- RoHS Compliant

CURED FILM PROPERTIES:

Testing conducted on 4908-10 gloss white at 1.5 mils DFT (Dry Film Thickness) over 20 gauge Bonderite 1000® test panel, cured 7 days air dried in ambient room temperature (78°F).

TEST	METHOD	PARAMETERS	RESULT
Adhesion	ASTM D3359	Cross-hatch tape	No loss
Impact:	ASTM D2794	Direct Reverse	60 in. lbs. 30 in. lbs
Flexibility:	ASTM D1737	1/4" mandrel	Pass
Hardness	ASTM D3363	Pencil	HB – F
Salt Spray	ASTM B117	250 hrs 95°, 5% salt solution	Less than 1/8" creepage
Solvent Resistance	ASTM D4752	MEK 50 rubs IPA 100 rubs	Softens but recovers No effect
Chemical & Stain Resistance	ASTM D1308 30 min. spot	A –Anti-freeze, motor oil, diesel, hydraulic fluid, gasoline, automatic transmission fluid. B – none. C – none. D – Brake fluid.	

A: No effect B: Slight dulling C: Moderate effect D: Discolored & softened

TYPE: Alkyd polymer.

COMPONENTS: One.

COLORS: Full range including metallics.

GLOSS: High, semi gloss and flat

COVERAGE: At 1.0 mil DFT.

840 ft²/gal. at 100% transfer efficiency (TE)

540 ft²/gal. at 65% TE

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

VOC MIXED: (as supplied)

230 grams/liter = 1.9 lbs/gal excluding exempt solvents

139 grams/liter = 1.2 lbs/gal including exempt solvents

VOLUME SOLIDS: 48% – 51%

FLASH POINT: -4°F TCC

SHELF LIFE: 1 year from date of manufacture in factory sealed container.

APPLICATION: Thoroughly stir or agitate paint before applying. Product can be sprayed, brushed or rolled. Results will depend upon the skill of the applicator. See Surface Preparation and Priming section for further instructions.

VISCOSITY: 20 – 30" seconds, #2 Zahn cup at 78°F. Will vary depending on color.

RECOAT: After 4 hours.

RECOMMENDED DFT: 1.5 – 2.5 mils (depending on color)

CURE: Air Dry

Tack free	20 min.
Dry to handle	60 min.
Full cure	7 days

APPLICATION EQUIPMENT: Most air quality regulations require the paint application transfer efficiency to be 65% or better. This generally means using electrostatic or high volume low pressure (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. Air quality regulations may limit allowable emissions from cleaning operations.

PRODUCT LIMITATIONS:

- Do not recoat prior to four hours. Temperature, humidity or film thickness may change recoat times.
- Do not apply product below 50°F.

FOR INDUSTRIAL USE ONLY
NOT FOR RESIDENTIAL USE

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

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.

Galvanized — Remove all white rust, Cardinal's W-303-A surface preparation solution improves adhesion.

PRIMER SELECTION:

PRODUCT NO.	DESCRIPTION	FUNCTION
4360-73426	3.5# VOC Gray Primer	Improve corrosion resistance
4960-73687	2.2# VOC Gray Primer	Improve corrosion resistance
4860-4702	3.5# VOC Lt. Gray Primer	Promote adhesion

RELATED PRODUCTS:

PRODUCT NO.	DESCRIPTION
1000-13	Fast exempt reducer and gun cleaner
HP-439	Medium exempt reducer

TROUBLE SHOOTING:

PROBLEM	CAUSE	REMEDY
Not drying	Too heavy – film thickness	Lower fluid pressure Spray multiple coats
Craters	Contaminated ambient air, e.g., silicone mist, dust.	Locate and eliminate source of contamination.
Fish-eyes	Substrate contamination.	Clean and prepare substrate.
Wrinkling	Recoat too soon	Lengthen recoat window

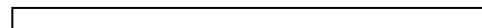
SAFETY: Refer to the product's Material Safety Data Sheet (MSDS) for complete safety information. Contains organic solvents. Use with adequate ventilation. Do not breathe vapors or spray mists. If component TLVs are exceeded, a NIOSH approved air supplied respirator is advised. See MSDS for TLV information. 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.

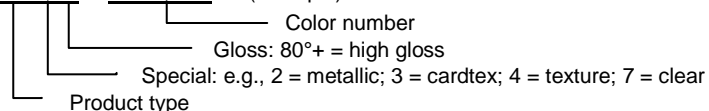
Skin contact: wash thoroughly with soap and water for 5 minutes.

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



PRODUCT IDENTIFICATION

4908-17875 (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.