



product
information

6500 / 65HP SERIES
EQUIPMENT URETHANE

Cardinal's 6500 Series is an innovative two-component polyester urethane coating designed to provide a high performance finish on a variety of industrial applications. This low viscosity coating has a decreased isocyanate demand (catalyst) making it an economical alternative coating. This product is intended to service on site refinishing of heavy equipment and general metal substrates. The fast time-to-tape is also an advantage as a method to improve productivity.

TYPICAL USES:

- Heavy equipment
- Top coat for decorative and protective use on metal
- Outdoor electronic enclosures
- General metal finishing
- Trailers

BENEFITS:

- Low VOC – 2.2 lbs/gal
- High gloss
- Good chemical and solvent resistance
- HAP Free
- Fast time-to-tape
- Decreased isocyanate demand
- R oHS / WEEE Compliant

CURED FILM PROPERTIES:

Testing conducted on 6509-10 gloss white catalyzed with 65HP at 1.5 mils DFT (Dry Film Thickness) over 20 gauge Bonderite 1000 test panels, cured 30 minutes at 180°F and air dried 14 days.

TEST	METHOD	PARAMETERS	RESULT
Adhesion	ASTM D3359	Cross-hatch tape	0% failure
Impact:	ASTM D2794	Direct Reverse	120 in. lbs. 80 in. lbs
Flexibility:	ASTM D1737	1/8" mandrel	No cracking
Hardness	ASTM D3363	Pencil	H - 2H
Abrasion	ASTM D4060	CS-17 wheels, 1 kg, 1000 cycles	Less than 100 mg loss
Humidity	ASTM D2247	168 hrs	No effect
Salt Spray	ASTM B117	1000 hrs 95°, 5% salt solution	Less than 3/16" creep - along scribe, otherwise, no effect
Solvent Resistance	ASTM D4752	MEK 100 rubs IPA 200 rubs	Slight Burnishing No effect

REPAIR OR REFINISHING: Clean surface to be repainted, remove dirt, grease, oil, and all other contaminants. Abrade surface if necessary. Tack surface clean. For exterior applications – prime any bare metal with 4960-73687 Gray alkyd primer. Apply top coat.

**FOR INDUSTRIAL USE ONLY
NOT FOR RESIDENTIAL USE**

TYPE: Polyester polyurethane.

COMPONENTS: Two.

COLORS: Full range including metallics.

GLOSS: High

COVERAGE: At 1.0 mil DFT, 65% transfer efficiency(TE)

Mixed paint, 2.2 lbs/gal : 375 ft²/gal.

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

VOC MIXED: 260 grams/liter = 2.2 lbs/gal minimum.

See mix ratio table below.

VOLUME SOLIDS:

6500 gloss base 35%

65HP 87%

Mixed to 2.2 lbs/gal 40%

FLASH POINT: -4F TCC

SHELF LIFE: 1 year from date of manufacture in factory

sealed container.

APPLICATION: After preparing the surface, thoroughly mix component 1 before adding catalyst. Mix only the amount of material needed. The base to catalyst proportion must be measured accurately, by volume only, to obtain optimum film properties. Do not use reducers that contain water or alcohol; these react with the catalyst and can cause a variety of problems. Be aware of spray-able pot life. Brushing, rolling and dipping are not recommended.

MIX RATIOS: Two components must be mixed properly to obtain coating performance. Thinning depends on applicator's regulatory VOC limits.

Parts are by volume	COLORS GLOSS
6500 base	10
65HP catalyst	1

VISCOSITY: Will vary depending on color. At 2.2 lbs/gal, the viscosity will be in the 25"-30" #3 Zahn range.

SPRAY-able Pot Life: 3-4 hrs. at 2.8 lbs. VOC/gal

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

CURE:	<u>Air Dry</u>	<u>Force Dry *</u>
Tack free	2 hrs.	1 hr at 120° F
Dry to handle	24 hrs.	30 min at 140° F
Dry hard	72 hrs.	15 min at 180° F
	(At 1.5 mils dry film thickness, 78° F, 50% RH)	

* Some Air quality regulations require a maximum temp. of 194° F to qualify as an "air dry" system which generally have higher VOC limits than baking systems.

(Continued on page 2)

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.

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 — 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 primers.

Stainless Steel — Brush-off or blast clean per SSPC-SP 7 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 wash pretreatment primer such as Cardinal's 4860 series primers.

PRIMER SELECTION:

PRODUCT NO.	DESCRIPTION	FUNCTION
6460-4702 *	Polyurethane Gray	Corrosion resistance, some surfacing
7063-20 *	Epoxy Mastic Gray	Very high build, corrosion resistance, abrasion resistance, chemical resistance
7760-73759 *	Epoxy Primer Gray	Corrosion resistance

* Refer to specific product TDS for mix ratios

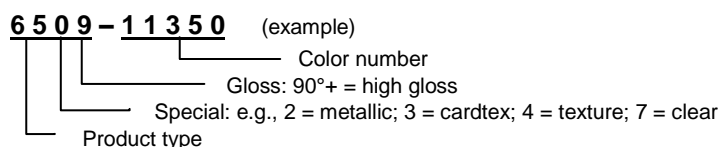
RELATED PRODUCTS:

PRODUCT NO.	DESCRIPTION
1600 Series Reducers	Thinners. Urethane grade. 1600-01, fast; 1600-02, medium; 1600-03, slow.
EL-005	Accelerator. Speeds up dry time (and shortens pot life).
J-3081	Surfactant. Helps eliminate blisters, bubbles, pin holes, solvent-pop.
P-5033	Surfactant. Helps eliminate craters and fish-eyes.

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.
Not drying	Alcohol in reducer. Wrong catalyst ratio.	Use Cardinal's 1600 series or urethane grade reducers only. Double check mix ratio.
Poor adhesion	Improper surface preparation.	See surface preparation section.
Gloss variation	Variation in application, cure schedule, catalyst ratio, humidity.	Consistent gloss depends upon consistent process.

PRODUCT IDENTIFICATION



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.

CLEAN-UP: Clean up should be done prior to the expiration of pot life. Cleaning should be effective immediately after completing the painting process. Air quality regulations may limit allowable emissions from cleaning operations.

PRODUCT LIMITATIONS:

- Catalyst reacts with water. Air supply should be dry. Containers should be kept tightly closed. Use urethane grade thinners only.
- Alcohols and glycols interfere with curing chemistry and should be avoided. They can be found in some lacquer thinners and certain synthetic reducers.
- Optimum film properties are dependent upon proper mixing of paint and catalyst.

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.

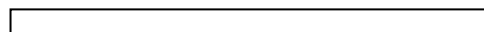
Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

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 and get medical attention immediately.



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.