

GlobalStar

L12.1.K1

DTM Low VOC Polyurethane

GlobalStar
INDUSTRIAL



US/012518L12.1. K1

Technical Data Sheet

Description

L12.1. K1 is a 2K DTM Low VOC Polyurethane Topcoat. L12.1.K1 is compliant in all restricted VOC areas.

Suggested Uses

As a high performance DTM Coating over suitable primers or over properly prepared substrates, including: Hot and Cold roll steel, Galvanized Steel, Aluminum, fiberglass, plastics and wood where:

- Outstanding Gloss and color retention are desired.
- Outstanding adhesion and flexibility is required.
- Excellent chemical resistance is required.
- Low VOC coatings are mandated.
- Tremendous adhesion when used as DTM
- Excellent Salt Fog Resistance when used as DTM

Field Applications

- Heavy industrial equipment
- Oil Field equipment
- Construction equipment
- Aircraft and Marine (above the water line)
- Airport ground support equipment
- Truck and Trailer Refinishing
- Equipment, Truck, Trailer OEM finishing.

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Division of Lusid Technologies, Inc. | Salt Lake City, UT | Phone 877-973-7600 | Fax 801-966-6876

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Components

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GSOR-F, GSOR-M, GSOR-S

AV.005

AE.002

Binder (Mixes 25:75 Toner: Binder)

Fast, Medium, Slow Urethane Reducer (VOC compliance)

Hardener (2.8 VOC)

Hardener (3.5 VOC)

Mixing Ratio

Mix:

Mix three (3) parts base color to one (1) part hardener.

Reduce up to 25% with selected suitable reducer.

Pot Life

2 hours @ 20° C (68° F)

Application

Apply:

Two medium wet coats, allow 10-20 minutes flash between coats.

Or apply one medium coat follow by a medium cross coat.

Spray Gun:

HVLP Gravity Feed – 1.3 – 1.5mm tip and needle

Pressure Pot HVLP – 1.0 – 1.1mm tip and needle

Air Assist Airless - 1.0 – 1.1mm tip and needle

Conventional – 1.4 – 1.7mm tip and needle

Airless Not recommended.

Film Build:

75-125 microns – (3.0 – 5.0 mils.) when applied as directed.

Dry Times

Dust Free:

60 minutes @ 20° C (68° F)

Dry to Touch

2-4 hours @ 20° C (68° F)

Total Hardness

24 hours @ 20° C (68° F)

Force Dry

45 minutes @ 60° C (140° F)

Chemical Resistance

Maximum resistance after 7 days

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Surface Preparation

Ferrous metals:

Best Case

SA2 sandblast Blow all dust and contaminates off and apply suitable GlobalStar L12.1.K1 topcoat as directed.

Second Best Case

Hot Phosphate wash system, blow dry and apply suitable GlobalStar L12.1.K1 topcoat as directed.

Third Best Case

Careful mechanical abrasion. Clean all dust, oil residue, finger prints and contaminates before and after mechanical abrasion with a clean drying wax and grease removal solvent, making sure all residue is removed. Apply suitable GlobalStar L12.1.K1 topcoat as directed.

Aluminum:

Clean surface with clean drying wax and grease remover. Apply GlobalStar L12.1.K1 topcoat as directed.

Galvanized Steel:

Clean all dust, oil residue, and contaminates from surface using a Clean drying wax and grease remover. Light Sanding (320P grit)
Clean again with clean drying wax and grease remover using a wipe and dry process. Apply GlobalStar L12.1.K1 topcoat as directed.

VOC

Regulatory VOC National Rule

420.0 g/l (3.5 lbs./gl.) when using AE.002 hardener & reducer.

Actual VOC National Rule

420.0 g/l (3.5 lbs./gl.) when using AE.002 hardener & reducer.

Regulatory VOC Compliant

340.0 g/l (2.80 lbs./gl.) when using AV.005 hardener & reducer.

Actual VOC Compliant

340.0 g/l (2.80 lbs./gl.) when using AV.005 hardener & reducer.

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Solids

By Volume
By Weight

42% (Average)

45% (Average)

Specific Gravity

1.11 kg/l (9.268 lbs./gl.)

Coverage

337 square feet per gallon @ 100% transfer efficiency,
@ 50 microns (2 mils.).

34 square meters per gallon @ 100% transfer efficiency,
@ 50 microns (2 mils.).

Repainting

After 24-36 hours @ 20° C (68° F). Light sand recommended for best adhesion. After force dry recommendations are completed, allow cool down for 2 hours before sand and recoat.

Storage Stability

One year for A (base) component, 6 months B (Hardener)
Component in closed package, in cool dry place, away from any heat source.

Heat Resistance

Once cured 180° C (356° F)

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ASTM Information:

Test	Results	Test Methods
Abrasion Resistance	Excellent	ASTM D 4060
Adhesion	Excellent	ASTM D 4541 ASTM D 3359 A/B (5/5)
Salt Spray Resistance	Excellent	ASTM B 117(pass 1500 hrs.)
Direct Impact Resistance	Very Good	ASTM D 2794 (140 in-lbs.)
Reverse Impact Resistance	Very Good	ASTM D 2794 (50 in-lbs.)
Humidity Resistance	Excellent	ASTM D 2247(Pass 1000 hrs.)
Film Hardness	2H	ASTM D 3363
Chemical Resistance (Rating Scale 1-10 with 10 best)	Excellent	ASTM D 1308
	10	1% Sodium Hydroxide
	10	5% Sodium Hydroxide
	10	10% Sodium Hydroxide
	10	10% Ammonia
	10	Diesel Fuel
	10	1% Hydrochloric Acid
	10	1% Sulfuric Acid
	10	10% Sulfuric Acid
	10	100% Ethanol
	10	1% Phosphoric Acid
	10	10% Phosphoric Acid
	10	MEK (Methyl Ethyl Ketone)
	10	Gasoline
	10	Skydrol
	10	DOT 3 Brake Fluid
QUV A	Excellent	ASTM D 4587 (1500 hrs. -97%)
Initial Gloss @ 60°	93 min	ASTM D523
Solvent Resistance	Surpassed	ASTM D 4752 (1000 MHR)
Flexibility	Excellent	ASTM D 522 Mandrel

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