MODERN MASTERS® COLORFAST™ EX
EXTENDED LIFE ALIPHATIC POLYURETHANE

DESCRIPTION AND USES

Modern Masters® Colorfast™ EX Extended Life Aliphatic Polyurethane system consists of a two-component aliphatic acrylic polyurethane topcoat and a two component epoxy primer. When used together as a coating system, it provides the ultimate in a high performance, ultra smooth finish, achieving rich vibrant colors with excellent color and gloss retention that's also easy to apply and has minimal VOCs (volatile organic compounds) and HAPs (hazardous air pollutants).

The Colorfast EX high performance two component aliphatic polyurethane top coat is specially formulated with ingredients that are resistant to UV degradation. Use the Colorfast EX wherever an extremely durable, corrosion, chemical and abrasion resistant finish is desired and where excellent color and gloss retention is a must, regardless of your color selection. The Colorfast EX aliphatic acrylic polyurethane top coats come in four finishes; Gloss, Semi-Gloss, Satin and Matte and are tintable with 844 colorants. The Colorfast EX also offers a line of companion products; an accelerator to reduce the dry time, a reducer that provides an ultra-smooth finish when spraying, and a high temperature reducer for that same ultra-smooth finish when application temperatures are above 80°F.

This coating complies with USDA FSIS regulatory sanitation performance standards for food establishment facilities. This coating is impervious to moisture and easily cleaned and sanitized.

PRODUCT FEATURES AND BENEFITS

Colorfast EX Aliphatic Acrylic Polyurethane Top Coat

- The ultimate in a high-performance finish that provides rich, vibrant colors with excellent color and gloss retention that are chemical and abrasion resistant
- Available in gloss, semi-gloss, satin, and matte finishes that can be tinted using 844 colorants
- User friendly: 2-3 hour pot life
- Dries to the touch in 1 hour
- VOC compliant nationwide and minimal HAPS

PRODUCTS

SKU	GLOSS TINT BASES
334612	Colorfast EX Light Tint Base (98.4 Oz.)
334608	Colorfast EX Deep Base (94.4 Oz.)
334388	Colorfast EX Neutral Base (86.4 Oz.)
SKU	**SEMI-GLOSS TINT BASES**
334613	Colorfast EX Light Tint Base (98.4 Oz.)
334609	Colorfast EX Deep Base (94.4 Oz.)
334555	Colorfast EX Neutral Base (86.4 Oz.)

PRODUCTS (cont.)

SKU	SATIN TINT BASES
334614	Colorfast EX Light Tint Base (98.4 Oz.)
334610	Colorfast EX Deep Base (94.4 Oz.)
334556	Colorfast EX Neutral Base (86.4 Oz.)
SKU	**MATTE TINT BASES**
334615	Colorfast EX Light Tint Base (98.4 Oz.)
334611	Colorfast EX Deep Base (94.4 Oz.)
334557	Colorfast EX Neutral Base (86.4 Oz.)
SKU	**COLORFAST EX ACTIVATOR**
334873	Quart (25.6 Oz. fill)

MAXIMUM COLORANT ADDITION LEVELS

QUANTITY	DESCRIPTION
4 oz.	Colorfast EX Light Tint Base
8 oz.	Colorfast EX Deep Base
16 oz.	Colorfast EX Neutral Base

NOTE: Tint with 844 colorants. Tinting with 844 colorants may contribute to the VOC of the applied product.

PACKAGING

Colorfast EX finishes are packaged in short filled gallons 98.4, 94.4 and 86.4 Oz.
Colorfast reducers and additives are sold in quarts.

COMPANION PRODUCTS

SKU	DESCRIPTION (Quart)
355396	Colorfast EX High Temperature Reducer
CFEXR1000132	Colorfast EX Urethane/Epoxy Primer Reducer
CFEXA1060132	Colorfast EX Accelerator

RECOMMENDED PRIMERS

Colorfast EX Epoxy Mastic Primer
Noxyde®
ROCPrime® Water-Based Hybrid 1K Epoxy Primer

RECOMMENDED DISINFECTANTS

- Concrobium® Broad Spectrum Disinfectant II
- Mean Green® Anti-Bacterial Multi-Surface Cleaner
- Mean Green® Pine Power Multi-Surface Cleaner
- Krud Kutter® Heavy Duty Cleaner and Disinfectant
- Moldex® Disinfectant

PRODUCT APPLICATION

SURFACE PREPARATION

All surfaces to be painted must be entirely free of dust, dirt, oil, grease, and other contaminants. Completely remove all loose, flaking, or chalking paint from the surfaces. Use a NIOSH approved respirator when sanding and when working with old, loose paint particles. Provide adequate ventilation. Properly prime the clean, dry surface with a primer from our recommended list and allow the surface to dry completely—preferably overnight.

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PRODUCT APPLICATION (cont.)

SURFACE PREPARATION

Warning! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1- 800-424-LEAD or log on to www.epa.gov/lead .

MIXING

Power mix part A on its own thoroughly, the activator part B does not need to be mixed on its own. Open the Activator (component B) carefully. Do not open if container is bulged. Discard if container is bulged or product is not clear. Then add 1 part Activator (component B) to 4 parts of Acrylic Polyurethane Base (component A) by volume and mix product thoroughly. Both components A and B are pre-measured to create a 1-gallon kit. Only activate enough material to be used within 2 to 3 hours of mixing.

REDUCTION/THINNING

The use of Colorfast EX Reducers is recommended once temperatures rise above 80°F.

Addition of the Colorfast EX reducers (CFEXR1000132 and or 355396) can improve atomization, flow, leveling, overspray acceptance, wet edge/open time, air release and overall appearance. Use of the 355396 may be particularly necessary when applying the coating at elevated temperatures or lower humidity levels. Total reduction ranges between 10% and 25% by volume.

Depending on the application method, a reduction of 10-25% with the Colorfast EX Urethane/Epoxy Primer Reducer CFEXR1000132 is recommended. For brush, roll and spray applications, reduction by 10% will suffice, but for applications where an automotive-like final appearance is desired, you can reduce up to 25%.

As temperatures rise beyond 80°F or humidity falls it will be necessary to use the High Temperature Reducer, 355396. This product can be added up to 10% by volume. Exceeding this level can adversely affect the drying speed resulting in extended tape free times or delayed hardness development. If additional reduction is desired, CFEXR1000132 can be blended with the 355396. When blending the two reducers, do not go over the 25% by volume maximum.

APPLICATION CONDITIONS

Apply only when air and surface temperatures are between 50-100°F (5-37.8°C) and surface temperature is at least 5°F (3°C) above the dew point.

Note: Lower temperatures and/or higher humidity will lengthen the dry and cure times. Higher temperatures and/or lower humidity will speed up the dry and cure times as well as reduce the pot life.

PRODUCT APPLICATION (cont.)

APPLICATION

Properly mixed product is ready to apply by brush, roller, or spray equipment.

NOTE: Acceleration of the dry time may be necessary at temperatures at or below 60°F to maintain the dry times and gloss levels. This may require the addition of one to two cap-fulls of Accelerator to a gallon of paint in any of the Colorfast EX finishes. However, addition of Accelerator will also shorten the pot-life to 1 to 2 hours. The use of the Accelerator at lower temperatures using this guidance will maintain the dry times listed on this TDS.

Use of up to 1 cap-full of the Accelerator at 75°F will shorten the pot life to 1.5 to 2 hours and will speed up the dry times by approximately 20-30% (This will vary by color, gloss level and humidity). Use of the Accelerator at temperatures above 80°F is not recommended.

Use of excessive amounts of accelerator can result in surface defects including solvent pop, loss of gloss and a slightly textured, uneven final appearance.

Usually, thinning is not required for brush or roll application. If necessary, refer to Reduction/Thinning section. Pot life is 2 to 3 hours. Thinning is recommended for spray application.

EQUIPMENT RECOMMENDATIONS

(Comparable equipment also suitable)
BRUSH: Use a high-quality brush recommended for solvent or oil-based paints.
ROLLER: Use a high-quality roller recommended for solvent or oil-based paints. When rolling, work in approximately 4-foot wide sections, keeping a wet edge.

AIR–ATOMIZED SPRAY

Method	Fluid Tip	Fluid Delivery	Atomized Pressure
Pressure	0.055-0.070	1-16 oz./min.	25-60 psi
Siphon	0.055-0.070	--	25-60 psi
HVLP (var.)	0.043-0.070	8-10 oz./min.	10 psi (at tip)

AIRLESS SPRAY

Fluid Pressure	Fluid Tip	Filter Mesh
1,800-3,000 psi	0.013-0.017	100

CAUTION: Protect surrounding surfaces from over spray. Over spray can be wet or dry depending on height of work, weather, environmental conditions, and application equipment. Wet over spray can adhere to unwanted surfaces. Dry over spray may be removed by wiping or washing. Always clean dry over spray from hot surfaces before fusing occurs as surface temperatures can be higher than the air temperature.

NOTE: See the Refer to Reduction/Thinning section for thinning information for spray application.

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PRODUCT APPLICATION (cont.)

CLEAN-UP

Clean brushes, rollers, tool, and equipment with compliant wash solvent immediately after use. Do not reuse containers and properly dispose of empty containers. As these products have a 2-3 hour pot-life, all application equipment, spray guns, pressure pots, etc. should be cleaned up immediately after use. Only activate enough material to be used within 2-3 hours of mixing.

CHEMICAL RESISTANCE

NOTE: Typical Properties after two weeks air dry, tested on Bonderite 1000 CRS.

SYSTEM TESTED

PRIMER: Colorfast EX Epoxy Primer

TOPCOAT: Colorfast EX (Properties may vary by color.)

ASTM D1308 (24 hour covered spot)	RESULT
Gasoline: No effect	P
10% Hydrochloric Acid: No effect	P
10% Sodium Hydroxide: No effect	P
Clorox Bleach: Little to no effect	PD
70% Isopropanol: Little to no effect	PM
Mustard: Little to no effect	PD
Hot Coffee: Little to no effect	PD
Diesel Fuel: Little to no effect	PD
Motor Oil: Little to no effect	PD

Chart Key

P= Pass
PD= Pass, Discoloration Possible
PM= Pass, Minimal Swelling

PERFORMANCE CHARACTERISTICS

PENCIL HARDNESS
Method: ASTM D3363
Result: H

PENDULUM HARDNESS
Method: ASTM D4366
Results: 61 swings

CONICAL MANDRILL BEND
Method: ASTM D522
Result: No cracking

SHEEN
Gloss bases: >85 at 60°
Semi-gloss bases: 35 to 70 at 60°
Satin bases: 20 to 35 at 60°
Matte bases: Maximum 5 at 60°

ADHESION
Method: ASTM D3359
Result: 5A

BLUSH RESISTANCE
Method: ASTM D870
Result: 10 (Rating 1-10, 10=best)

PERFORMANCE CHARACTERISTICS (cont.)

DRY HEAT RESISTANCE
Method: ASTM D2485
Results: Resistance of 200°F

ACCELERATED WEATHERING
Light Blue Tested (performance may vary by color)
Method: ASTM D4587 (QUV A, Cycle 4 2,000 hours)
Result: Gloss Retention: >95%, Color Retention: < 1.5 ΔE

CORROSION RESISTANCE
Method: ASTM D117 (650 hours exposure)
Results: Blistering: None
Creepage: 9 to 10 (<0.1 mm average)

HUMIDITY RESISTANCE
Method: ASTM D2247 (750 hours exposure)
Results: Blistering: None
Adhesion: (ASTM D3359) 5A

NOTE: Typical Properties after two weeks air dry, tested on Bonderite 1000 CRS.

SYSTEM TESTED

PRIMER: Colorfast EX Epoxy Primer

TOPCOAT: Colorfast EX (Properties may vary by color)

CLEANER/DISINFECTANT (Open 24 hours Initial)	RESULT
Concrobium Broad Spectrum Disinfectant II	ND
Mean Green Anti-Bacterial Multi-Surface Cleaner	ND
Mean Green Pine Power Multi-Surface Cleaner	ND
Krud Kutter Heavy Duty Cleaner & Disinfectant	ND
Krud Kutter Cleaner & Degreaser	ND
Krud Kutter Tough Task Citrus	DG
Moldex Disinfectant (2%)	ND
RockSolid Composite Deck Cleaner (8.3%)	ND
Clorox Bleach (5%)	ND
Pine Sol (2%)	ND

CLEANER/DISINFECTANT (Open 24 hours and 24 hours Recovery)	RESULT
Concrobium Broad Spectrum Disinfectant II	ND
Mean Green Anti-Bacterial Multi-Surface Cleaner	ND
Mean Green Pine Power Multi-Surface Cleaner	ND
Krud Kutter Heavy Duty Cleaner & Disinfectant	ND
Krud Kutter Cleaner & Degreaser	ND
Krud Kutter Tough Task Citrus	RC
Moldex Disinfectant (2%)	ND
RockSolid Composite Deck Cleaner (8.3%)	ND
Clorox Bleach (5%)	ND
Pine Sol (2%)	ND

CLEAN/DISINFECTANT: Chart Key

ND= No Defect
DG= Deglossing
RC= Recovered

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PHYSICAL PROPERTIES

		COLORFAST EX ALIPHATIC ACRYLIC POLYURETHANE
Resin Type		Aliphatic Acrylic Polyurethane
Pigment Type		Varies per Tint Base
Solvents		Acetone, Oxsol
Weight	**Per Gallon**	10.1-10.5 lbs.
	Per Liter	1.21-1.26 kg
Solids	**By Weight**	39.4-43.0%
	By Volume	41.6-44.5%
Volatile Organic Compounds		<50 g/l
Mixing Ratio		4:1 Component A: Component B
Pot Life		2-3 hours @ 75°F
Recommended Dry Film Thickness (DFT) per Coat* **		1.5-3.0 mils
Wet Film to Achieve DFT (Unthinned material)* **		2.0-7.0 mils
Practical Coverage at Recommended DFT (assume 15% material loss)		200-420 sq. ft./gal.
Dry Times at 75°F (24ºC) and 50% Relative Humidity	**Touch**	1 hour
	Recoat	1 hour minimum and 48 hours maximum
	Dried Through	Overnight
	Full Cure	14 days
Shelf Life		Base - 4 years Activator - 2 years if container has never been opened and stored at room temperature in a dry environment. Opened activator should be used within 2 weeks
Dry Heat Resistance		200°F (93°C)
Flash Point		82-103°F (28-39°C)
Safety Information		For additional information, see SDS

Calculated values are shown and may vary slightly from the actual manufactured material.

* Activated material
** Pot life is affected by air temperature, amount of material activated and the quantity of thinner used. Avoid activating large quantities at temperatures above 80°F (27°C). At temperatures above 90°F (32°C), the pot life of unthinned material in 5-gallon pails may be very short (less than one hour).
*** Highly textured surfaces (e.g. blasted metal) may require coating thicknesses at the upper end of the recommended range: 5-8 mils dry (125 to 200µ) or 6.5-10 mils wet (162.5 to 250µ)

The technical data and suggestions for use contained herein are correct to the best of our knowledge, and offered in good faith. The statements of this literature do not constitute a warranty, express, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.