

EX-2C Low VOC Topcoat

Technical Data Sheet (TDS)

Product Description

EX-2C Low VOC Topcoat is a two component highly cross-linked, high performance polyester polyurethane coating providing a high gloss surface finish.

Product features:

- Excellent UV stability providing long term gloss and color retention.
- Outstanding chemical resistance
- Outstanding abrasion and impact resistance
- A library of over 40,000 colors
- VOC compliant. Also available in Low VOC formulations compliant to 2.8 (lbs/gal).
- Tested to comply with FDA 21 CFR 175.300 criteria for food contact.

Recommended Uses

EX-2C Low VOC Topcoat is intended for industrial applications, either new build or maintenance. It is suitable for application on all Endura primers.

Industries:

- Oilfield & Energy Services
- Cranes and Construction Equipment
- Waste and Recycling Industry
- Trailers and Rolling Stock
- Marine (above the water line)

Product Characteristics

Gloss: High: 90+ GU at 60°	
Slight gloss variations will occur depending on color. Lower gloss levels can be achieved with use of FA777 or application of lower gloss Endura EX-2C Clear 116 MG, 117 LG or 118 NG	
Volume Solids Mixed: (Unreduced) FUA0120: FUB0112 (1:1)	46% ± 2%
Volume solids will vary by color	
Pot Life: (77°F (25°C) and 50% RH)	8-10 Hours
Pot life is reduced when Super Catalyst II is used	
VOC Mixed (Unreduced): EPA Method 24 FUA0120: FUB0112 (1:1)	275 g/l 2.292 lb /gal
All colors are below 420 g/l (3.5 lb/gal). VOC content will vary with each color and specific component B used	
Shelf Life: For unopened product (77°F (25°C))	
Component A	3 years
Component B	2 years

Surface Preparation

EX-2C Low VOC Topcoat can be applied over all Endura primer sealers and primer surfacers without sanding during their topcoat window. The topcoat window varies with each primer. See the relevant primer technical data sheet for the specific topcoat window data.

If the primer topcoat window has been surpassed; the primer should be sanded with 240 – 280 grit sandpaper to achieve inter-coat adhesion. All sanding dust must be blown off prior to application of the topcoat.

Mix Ratio

- 1 part by volume of component A [**CLRXXXXX**]
(Part Number varies with color)
1 part by volume of component B [**FUB0112**]

The recommended temperature when mixed is 68-77°F (20-25°C).

Other EX-2C B components are available for varying ambient conditions and application requirements. Consult the Component B Selector.

Contact your Endura Representative if you have any questions.

Application Method

EX-2C Low VOC Topcoat can be applied using most spray-painting systems.

Ensure that any solvent absorbent primer surfacers are properly sealed with a primer sealer prior to application of the topcoat.

Solid Colors:

Apply two single wet coats of EX-2C Low VOC. Apply a thinner first coat of EX-2C Low VOC at 1.5 - 2.0 mils wet, followed by a second wet coat of 2.0 - 3.5 mils wet. Allow up to 30 minutes between coats.

Metallic Colors:

Three coats are recommended for metallic colors. Apply two medium coats. Allow up to 30 minutes flash off time between coats. Immediately following the second wet coat apply a third "mist coat" to achieve a uniform finish.

When a high-hide version of any solid or metallic color is used it must be clear coated to realize full gloss and UV stability.

Spray Gun Setup			
Feed Type	Fluid Tip	Application Pressures (heel of gun)	Fluid Delivery
Siphon Feed	1.6-1.8 mm	40-50 psi	
Gravity Feed	1.3-1.8 mm	30-40 psi	
Pressure Feed	1.0-1.4 mm	50-60 psi	12-14 oz/min
Air Assist Airless	9 -13 Thou	1,000-1,800 psi	
Airless	9 -13 Thou	1,000-3,000 psi	

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Suggested Viscosity Ranges Ford 4 Viscosity Cup at 68°F (20°C)	
Airless	17 - 19 secs
Air Assist Airless	16 - 18 secs
Conventional	14 - 17 secs

Spraying viscosity and thinning will depend on ambient conditions, spray equipment used and the desired surface finish.

Recommended spraying viscosity is achieved by reducing with one of the following Endura Low VOC Topcoat reducers up to 25% by volume.

The following reducers will maintain VOC compliance.

FTH0021 – Low VOC Topcoat Thinner/ Reducer

FTH0023 – Slow Low VOC Topcoat Thinner / Reducer

AUTOMOTIVE FINISH

To achieve an automotive like finish (smooth, minimal orange peel) with EX-2C Low VOC Topcoat additional reduction will be required.

Recommended Mixing Ratio:

- 2 parts by volume Component A
- 2 parts by volume Component B
- 1 part by volume Medium Topcoat Reducer

This reduction will result in a spray viscosity of approximately 14.5 secs Ford 4 Cup (White)

Depending on the color, reduction will vary. For example, whites may require slightly more reduction than metallics.

Recommended Reduced Mixed Spray Viscosity:	
14-15 seconds	Ford 4 Cup (White)

Spraying viscosity and thinning will depend on ambient conditions, spray equipment used, and the desired surface finish.

Application of a third coat will be required to achieve the recommended film build of:

Dry: 1.5 – 2.5 mils DFT (37.5 – 62.5 microns)

Contact your Endura Representative if you have any questions.

This mixture using Medium Topcoat Reducer is not VOC compliant

Film Build

EX-2C Low VOC Topcoat recommended film thickness:

Wet: WFT Unreduced	3.5 – 5.5 mils	89 – 140 microns
Dry: DFT	1.5 – 2.5 mils	38 – 63 microns

Poor hiding colors film build may be higher.

Theoretical coverage at 1.0 mil (25 microns). Average DFT is: 748 ft² per gallon at 100% transfer efficiency.

Dry Times

	68°F(20°C)	86°F(30°C)	104°F(40°C)
Dust Free	2 Hours	1 Hour	30 Minutes
Full Cure	7-14 Days		

Dry Times are subject to ambient conditions (temperature and humidity), good airflow and film build of the topcoat.

For best results surface temperature must be 86°F (30°C) or less before topcoating. Maximum re-coat window without sanding is 18 hrs at 68°F (20°C). After 18 hours EX-2C Low VOC topcoat must be sanded to achieve inter-coat adhesion. Mechanical sanding with 220 – 320 grit is recommended before topcoating.

The use of Super Catalyst II with Endura topcoats will accelerate drying times.

Ensure that no more than three coats of paint are applied in a 12-hour shift. This includes primer, mid-coat, topcoats, and clear coat. If more than three coats have been applied wait 10-12 hours to allow for proper solvent evaporation.

For questions about scheduling contact your Endura Representative.

Clear Coating

If EX-2C Low VOC Topcoat is going to be clear coated the following minimum times before application of the clear coat are recommended:

Solid Colors	Metallic Colors
3 Hours	6 hours

The minimum clear coat times are based on based on recommended film build at 68°F (20°C) and 50% RH. The use of Supercatalyst I or II in the EX-2C will reduce these minimum times.

Maximum re-coat window without sanding is 18 hrs at 68°F (20°C). After 18 hours EX-2C Low VOC topcoat must be sanded to achieve inter-coat adhesion. Mechanical sanding with 400 grit is recommended before clear coating.

Metallics and pearls must be clear coated within this re-coat window as sanding is not recommended.

For questions about scheduling please contact your Endura Representative.

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Component B Selector

To maintain VOC compliance, only the following Endura Component B activators may be used.

EX-2C Special B

For use when higher viscosity is required for brush and roll applications.

2 parts by volume of component A [CLRXXXXX]
1 part by volume of component B [FUB0101]

For further information on EX-2C with Special B refer to the technical data sheet.

EX-2C California B

A Zero VOC B for the most stringent of VOC emission standards.

1 part by volume of component A [CLRXXXXX]
1 part by volume of component B [FUB0111]

EX-2C Clear 100 with EX-2C California B is not VOC compliant.

EX-2C Low VOC A.C.T. B

For use when speed is critical for multiple color striping.

1 part by volume of component A [CLRXXXXX]
1 part by volume of component B [FUB2100]

EX-2C Clear 100 with EX-2C Low VOC A.C.T. B is not VOC compliant.

For further information on EX-2C Low VOC A.C.T. B refer to the technical data sheet.

For questions regarding which component B is right for your application, contact your Endura Representative.

Clean Up

Clean all equipment immediately after use with Endura High Strength Gun Wash, or Endura EX-2C thinner.

Follow manufacturer's safety recommendations when using any solvent

Ordering Information (sizing)

Component A Part numbers vary by color.

EX-2C LVOC Topcoat		1 mixed quart (946ml)
Comp A	CLRXXXXX-010	1 pint (473ml)
Comp B	FUB0112-010	1 pint (473ml)

EX-2C LVOC Topcoat		2 mixed quarts (1.89l)
Comp A	CLRXXXXX-020	1 quart (946 ml)
Comp B	FUB0112-020	1 quart (946 ml)

EX-2C LVOC Topcoat		2 mixed gallons (7.56l)
Comp A	CLRXXXXX-030	1 gallon (3.78l)
Comp B	FUB0112-030	1 gallon (3.78l)

EX-2C LVOC Topcoat		10 mixed gallons (37.8l)
Comp A	CLRXXXXX-050	5 gallons (18.9l)
Comp B	FUB0112-050	5 gallons (18.9l)

Other custom sizes may be available.

Environmental Conditions

For optimum coating performance product, substrate and ambient temperature should be between 68°F-77°F (20°C-25°C). To prevent condensation during application the surface temperature must be 5°F (3°C) or more above the dew point at all times.

For use outside this range please contact your Endura Representative.

Specifications

Hardness	ASTM D3363	2H
Solvent Resistance	ASTM D4752	100 MEK Rubs; No Failure
Abrasion Resistance (1000 cycles CS-17)	ASTM D4060	32mg loss
Impact Resistance	ASTM D2794	100 in. lbs; NO failure
Flexibility	ASTM D522	1/8 mandrel bend: NO failure
Service Temp	-40°F to 360°F	-40°C to 182°C

Safety Precautions

Please refer to all Safety Data Sheets (SDS) before using this product. SDS sheets can be found on our website at www.endurapaint.com.