

## EX-2C Clear 221

### Technical Data Sheet (TDS)

#### Product Description

**EX-2C Clear 221** is a ready to spray, two component highly cross-linked, polyester polyurethane automotive clear coating.

#### Product features:

- Excellent protection against acids and alkalis
- Formulated to maximize UV resistance.
- Will increase service life of solid, metallic, pearl colors and fluorescent coatings.
- Available in high gloss

#### Recommended Uses

EX-2C Clear 221 is intended for industrial applications, either new build or maintenance. It is suitable for application on EX-2C Topcoat.

#### Industries:

- Oilfield & Energy Services
- Cranes and Construction Equipment
- Waste and Recycling Industry
- Trailers and Rolling Stock
- Automotive applications

#### Product Characteristics

<b>Gloss:</b> High: 90+ GU at 60°	
<b>Volume Solids Mixed: (Unreduced)</b> <b>FUA0221:FUB0100 (2:1)</b>	28% ± 1%
<b>Pot Life:</b> (77°F (25°C) and 50% RH)	8-10 Hours
<b>Pot life is reduced when Super Catalyst II is used</b>	
<b>VOC Mixed (Unreduced):</b> EPA Method 24 <b>FUA0221:FUB0100 (2:1)</b>	622 g/l 5.194 lb /gal
<b>VOC content will vary with each component B used</b>	
<b>Shelf Life: For unopened product (77°F (25°C))</b>	
<b>Component A</b>	3 years
<b>Component B</b>	2 years

#### Surface Preparation

EX-2C Clear 221 can be applied on EX-2C Topcoat colors without sanding during their topcoat window. Ensure that surfaces to be clear coated are free of flaws, surface contaminants and other surface imperfections.

If the EX-2C Topcoat has been allowed to cure longer than 24 hours, sanding will be required to achieve inter-coat adhesion. Sand the topcoat lightly with 400 grit sandpaper or maroon/grey scuff pads.

- **Do not sand metallic or pearl colors.**
- **Do not mix Clear 221 with metallic color for final coat.**
- **Do not mix clear into final color coat on solid colors. This may cause matching and repeatability issues.**

#### Mix Ratio

2 parts by volume of component A [**FUA0221**]  
1 part by volume of component B [**FUB0100**]

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

#### Application Method

EX-2C Clear 221 can be applied using most spray-painting systems. After application of EX-2C Topcoat wait for the following times before application of EX-2C Clear 221:

Solid Colors	Metallic Colors
3-18 Hours	6-18 hours

Apply two wet coats of EX-2C Clear 221, allowing up to 30 minutes between coats.

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

Spray Gun Setup			
Feed Type	Fluid Tip	Application Pressures (heel of gun)	Fluid Delivery
<b>Siphon Feed</b>	1.6-1.8 mm	40-50 psi	
<b>Gravity Feed</b>	1.3-1.8 mm	30-40 psi	
<b>Pressure Feed</b>	1.0-1.4 mm	50-60 psi	10-14 oz/min
<b>Air Assist Airless</b>	9 -11 Thou	1,000-1,800 psi	
<b>Airless</b>	9 -11 Thou	1,700-3,000 psi	

Suggested Viscosity Ranges Ford 4 Viscosity Cup at 68°F (20°C)	
<b>Airless</b>	13 - 15 secs
<b>Air Assist Airless</b>	12 - 15 secs
<b>Conventional</b>	11 - 13 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 topcoat thinner/ reducers up to 20% by volume.

FTH0086 – EX-2C Thinner  
FTH0090 – Slo EX-2C Thinner  
FTH0014 – Medium Topcoat Reducer

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#### Film Build

EX-2C Clear 221 recommended film thickness:

<b>Wet: WFT Unreduced</b>	3.5 – 5.5 mils	89 – 135 microns
<b>Dry: DFT</b>	1.0 – 1.5 mils	25 – 50 microns

Theoretical coverage at 1.0 mil (25 microns)  
DFT: 449 ft<sup>2</sup> per gallon at 100% transfer efficiency.

#### Dry Times

	68°F (20°C)	86°F(30°C)	104°F(40°C)
<b>Dust Free</b>	2 Hours	1 Hour	30 Minutes
<b>Full Cure</b>	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.

**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 3 coats have been applied wait 10-12 hours to allow for proper solvent evaporation.**

For questions about scheduling please 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)

<b>EX-2C Clear 221</b>	1.5 mixed gallons (5.67l)	
<b>Comp A</b>	FUA0221-030	1 gallon (3.78l)
<b>Comp B X2</b>	FUB0100-020	1 quart (946 ml)

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

<b>Hardness</b>	ASTM D3363	4H
<b>Solvent Resistance</b>	ASTM D4752	100 MEK Rubs; No Failure
<b>Impact resistance</b>	ASTM D2794	100 in. lbs; NO failure
<b>Abrasion Resistance (1000 cycles CS-17)</b>	ASTM D4060	25 mg loss
<b>Flexibility</b>	ASTM D522	1/8 mandrel bend: NO failure
<b>Service Temp</b>	-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](http://www.endurapaint.com).