Endura Manufacturing Co. Ltd
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Phone: +1-780-451-4242 / 1-800-661-9930
www.endurapaint.com

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. EX-2C Clear 221 is suitable for application on EX-2C Topcoat.

Industries:

- Oilfield & Energy Services
  - Well Service Vehicles
  - Drilling
  - Tanks
- Cranes and Construction Equipment
- Waste and Recycling Industry
  - Garbage Trucks
- Trailers and Rolling Stock
- Automotive applications

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).

Product Characteristics

Gloss:	High: 90+ GU at 60°
Volume Solids Mixed: (Unreduced) **FUA0221:FUB0100 (2:1)**	28% ± 1%
Pot Life: (77°F (25°C) and 50% RH)	8-10 Hours
Note: Pot life is reduced when Super Catalyst II is used	
VOC Mixed (Unreduced): EPA Method 24 **FUA0221:FUB0100 (2:1)**	634 g/l 5.286 lb /gal
VOC content will vary with each component B used	
Shelf Life:	
Component A	3 years
Component B	2 years
For unopened product (77°F (25°C))	

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.

Note:

- **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. Ensure opacity is achieved in previous coat.

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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

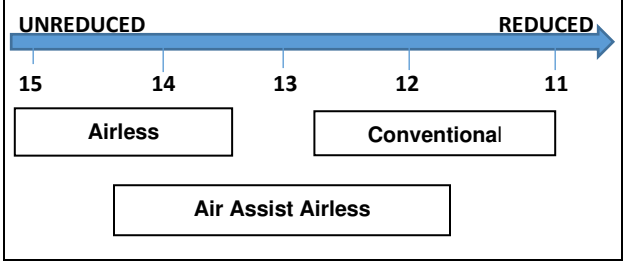
Feed Type	Fluid Tip	Application Pressures (heel of gun)	Fluid Delivery
Siphon Feed	1.6-1.8 mm	40-50 psi	
Gravity Feed	1.3-1.8 mm	30-40 psi	
Pressure Feed	1.0-1.4 mm	50-60 psi	10-14 oz/min
Air Assist Airless	9 -11 Thou	1,000-1,800 psi	
Airless	9 -11 Thou	1,700-3,000 psi	

Spray Viscosity

Ford 4 Viscosity Cup at 68°F (20°C)

Viscosity in seconds

Reduce viscosity as required



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

If required, recommended spraying viscosity is achieved by reducing with one of the desired Endura topcoat thinner/ reducer.

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

Film Build

EX-2C Clear 221 has a recommended film build thickness of:

Wet: WFT Unreduced	**3.5 – 5.5 mils**	**89 – 135** microns
Dry: DFT	**1.0 – 1.5 mils**	**25 – 50** microns

Theoretical coverage at 1.0 mil (25 microns) DFT: 449 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		

Note: 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.

Important Note: 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.

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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)

Available in Gallons.
Other custom sizes may be available.

1.5 Mixed Gallons		
Comp A	**FUA0221-030**	**1 Gal.**
Comp B – 2X	**FUB0100-020**	**1 Qt.**

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	4H
Solvent Resistance	ASTM D4752	100 MEK Rubs; No Failure
Impact resistance	ASTM D2794	100 in. lbs; NO failure
Abrasion Resistance (1000 cycles CS-17)	ASTM D4060	25 mg loss
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.