

Epoxy/Urethane Concrete Coating System

Endura offers a coating system for concrete floors consisting of an epoxy primer and a urethane topcoat. It can be used on garage, warehouse and machine shop floors. It provides outstanding chemical and abrasion resistance. Endura EP HiBuild Floor is used as the Primer and it is topcoated with EX-2C Concrete topcoat.

Product List:

EP HiBuild Floor
EX-2C Concrete

Recommended info:

EP HiBuild Floor
TDS and MSDS
EX-2C Concrete
TDS & MSDS

Additional Information:

It is critical that the floor be dry before the EP HiBuild epoxy floor primer is applied. Moisture on the surface can cause adhesion problems.

The datasheets and instructions for both EP HiBuild floor primer and EX-2X concrete topcoat have been specifically tailored for flooring applications, for other substrates please see the general datasheets available at www.endura.ca.

QUESTIONS?
PLEASE CONTACT US.
1-800-661-9930
info@endura.ca

EP HiBuild Epoxy Primer Application

The Following guide provides detailed application information for coating concrete floors with the Endura Epoxy/Urethane Coating System.

Primer Surface Preparation

Concrete: Concrete floors should be shot blasted or acid etched. For acid etching concrete floors use muriatic acid, mixed at a ratio of 1 part acid to 5 parts water, by volume. Rinse the floor thoroughly with clean water after etching and dry completely. Force dry the floor, the **concrete must be completely dry** before it is coated with primer.

Primer Application Method

Pour 1 liter of mixed primer onto the floor and roll it out to the desired coverage. (Between 50 and 100 ft² per liter)

Apply 3.5 -7.0 mils DFT (45-90 ft²/liter) for general use. Apply EX-2C concrete topcoat between 24 and 72 hours after primer application.

Coverage

45 ft²/liter at 7.0 Mil DFT
90 ft²/liter at 3.5 Mil DFT

Note: The smaller the coverage area the greater the abrasion resistance due to increased coating thickness.

Application temperatures

Substrate: 15° to 30°C (60° to 90°F)
Ambient: 15° to 30°C (60° to 90°F)

The floor temperature must be maintained at a minimum of 15°C (60°F). Relative humidity should not exceed 85%.

Primer Application Equipment

A short (1/8") pile roller should be used. A squeegee may be used for initial spreading, and then the product should be rolled.

Topcoating

Endura EP HiBuild concrete primer may be topcoated after a 24 hour flash off period, at normal temperatures. For best general service (weathering, gloss retention and chemical resistance) topcoat with EX-2C concrete topcoat.

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EX-2C Concrete Topcoat Application

Sanding of the EP HiBuild primer is not normally required before application of the EX-2C concrete topcoat or between coats of primer.

However, scuff sanding to remove surface imperfections will result in a superior surface appearance.

If the primer coating is left more than 72 hours it will have to be scuffed with 120 – 150 grit sandpaper before refinishing.

Topcoat Surface Preparation

Ensure that the surface is free of flaws, nibs or imperfections. If large imperfections exist after primer coat use 120-150 grit sandpaper to remove them. Use a vacuum cleaner to remove all dust from the surface.

Application Temperatures

Normal application conditions should be about 20°C (68°F) at 50% relative humidity. It is important that the temperature of the mixed paint be between 20°-25° C as temperature can greatly affect viscosity.

Substrate temperature should not be lower than 7°C (45°F) or higher than 30°C (86°F).
Note: Above or below normal conditions will decrease or increase the length of drying time respectively.

DO NOT apply when the surface is less than 3°C (5°F) above the dew point.

Topcoat Application Method

Mix component A thoroughly. Check to ensure correct color.

For Spraying: Mix ONE part EX-2C component "A" with ONE part EX-2C component "B", by volume.

Example: mix 4 liters of "A" with 4 liters of "B" to cover approximately 800-1200 ft² depending on thickness of coating.

For Rolling: Mix TWO parts EX-2C component "A" with ONE part EX-2C Special component "B", by volume.

If necessary, use EX-2C slo thinner (5-15%)

Pour 1 liter of mixed product on the floor and roll it out to the desired coverage (between 50-100 ft²)

Topcoat Application Equipment

Use a short (1/8") pile roller. For areas over 1000 ft² use a squeegee to initially spread out the urethane coating then back roll with the short pile roller.

Epoxy/Urethane Concrete Coating System

Endura offers a coating system for concrete floors consisting of an epoxy primer and a urethane topcoat. It can be used on garage, warehouse and machine shop floors. It provides outstanding chemical and abrasion resistance. Endura EP HiBuild Floor is used as the Primer and it is topcoated with EX-2C Concrete topcoat.

Product List:
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EX-2C Concrete

Recommended info:
EP HiBuild Floor
TDS and MSDS
&
EX-2C Concrete
TDS & MSDS

Additional Information:
It is critical that the floor be dry before the EP HiBuild epoxy floor primer is applied. Moisture on the surface can cause adhesion problems.

The datasheets and instructions for both EP HiBuild floor primer and EX-2X concrete topcoat have been specifically tailored for flooring applications, for other substrates please see the general datasheets available at www.endura.ca.

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Curing Rate:

Based on 2 MILS (50 Microns) DFT. Curing rate will be longer if thicker films are applied.

Dry To Touch: 6 -10 Hours
Tack Free: 8 -24 Hours
Hard Dry: 24 - 48 Hours
Full Cure: 7 -14 Days

Tape Application

Under normal conditions, EX-2C Concrete Topcoat generally does not tape mark after 16 – 24 Hours.

Additional Colors

Stripes or trim colors can be applied after an 8 – 16 hour drying period. After masking, lightly scuff sand color with 180 grit sandpaper, or scuff sand with abrasive pad.

Alternate Method: Apply trim color slightly wider than final width, allow to dry 8 – 12 hours (less if Super Catalyst II was used), mask off and scuff sand as above and apply next color coat.

Signs and Decals

Sign painting and lettering should be done as soon as possible (8 – 16 hours after the last coat was applied). Decals should not be applied for 7 – 14 days.

Cleaning Instructions

Surfaces coated with Endura EX-2C concrete topcoat should be allowed to dry hard (usually 12 – 24 hours) before even a gentle cold water wash or rinsed is carried out. The complete cure of Endura coatings takes between 15-30 Days (depending on temperature, humidity etc...) **DO NOT USE** hot water or pressure wash for 30 days. There is a risk of water spotting, delamination or blistering of the coating. Protect the paint surface from rain, condensation (dew), or sudden exposure to high heat for at least 24 hours after painting.

Storage

Keep materials away from open flames or sparks. Keep containers tightly closed and whenever possible keep shop temperatures between 15° & 20°C (58° & 68°F). In case of spillage, absorb and then dispose of in accordance with local applicable regulations.

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Recommended info:

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Additional Information:

It is critical that the floor be dry before the EP HiBuild epoxy floor primer is applied. Moisture on the surface can cause adhesion problems.

The datasheets and instructions for both EP HiBuild floor primer and EX-2X concrete topcoat have been specifically tailored for flooring applications, for other substrates please see the general datasheets available at www.endura.ca.

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Personal Protection

Consult relevant MSDS information

Use Endura EP HiBuild concrete primer only with adequate ventilation to minimize exposure to vapor and spray mist. Use Endura EX-2C concrete topcoat only with adequate ventilation to minimize exposure to vapor and spray mist. Where very good mechanical ventilation exists, wear organic vapor/particulate respirator (US Bureau of Mines BE-23NIOSH 23C or equivalent) during application and until work area has been exhausted of all vapors and spray mist. If ventilation is poor, wear fresh air supplied respirator (US Bureau of Mines Type C or equivalent).

Warning**Vapor and spray mist is harmful**

May cause lung irritation and allergic respiratory reaction

May irritate the skin

Combustible (flammable)

A fresh air supplied respirator is the only acceptable type of respiratory protection for solvent vapor and spray mist. This should be well fitting and regularly serviced. Wear goggles or a full face mask and gloves or protective creams and disposable coveralls.

First Aid

- ◆ If affected by inhalation of vapor or spray mist, remove to fresh air.
- ◆ If breathing difficulty persists or occurs later, consult a physician and have information available.
- ◆ In case of eye contact, flush immediately with plenty of cold water for 15 minutes.
- ◆ In case of skin contact, wash thoroughly with soap and water.

For more information on this guide or on any Endura coating product please contact us at 1-800-661-9930 or by email info@endura.ca.

Endura products are manufactured from the highest quality raw materials using the most advanced methods. Best results from this superior product are attained when these preparation and application instructions are followed carefully.

Since we have no control over surface preparation or of application, we give no warranty of the resulting finish attained. Any liability on our part is limited to the replacement of material purchased from us or our distributors.

EP HiBuild [Floor]

Endura EP HiBuild Epoxy Floor Primer is designed as a multi-mil coating for use on concrete floors in garages, warehouses and in industrial shops.

Product Features

- ◆ Proven for heavy industrial applications
- ◆ Waterproof capability at 10 mils dry film thickness
- ◆ High solids provide quick film build
- ◆ Excellent alkali and salt spray resistance

Theoretical Solids Content:

Volume: 79%

Shelf Life*

Component A: (3) years
Component B: (1) year

*For unopened product.

Pot Life of Mixed Product:

30-45 minutes* @ 77°F (25°C) and 50% RH

*For extended pot life phone Endura technical dept.



Suitability

Endura EP HiBuild Epoxy Floor Primer is ideally suited for heavy industrial uses and/or waterproofing requirements. EP HiBuild Epoxy Floor Primer is topcoated with Endura EX-2C Concrete topcoat.



Surface Preparation

Concrete: Concrete floors should be shot blasted or acid etched. For acid etching concrete floors use muriatic acid, mixed at a ratio of 1 part acid to 5 parts water, by volume. Rinse the floor thoroughly with clean water after etching and fry completely. Force dry the floor, the **concrete must be completely dry** before it is coated with primer.



Mixing Ratio

4 parts by volume of component A
1 part by volume of component B [FEB0007]

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

Environmental Conditions

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

*for use outside this range please contact your Endura representative.



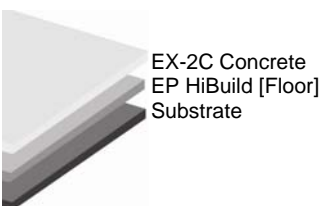
Application Instructions

Pour 1 liter of mixed primer onto the floor and roll it out to the desired coverage. (Between 50 and 100 ft² per liter)
The floor temperature must be maintained at a minimum of 15° (60°F).

Application Equipment

A short (1/8") pile roller should be used. A squeegee may be used for initial spreading, and then the product should be rolled.

Please see the Epoxy/Urethane Concrete Coating system Application Guide for complete instructions.



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Shelf Life*

Component A: (3) years
Component B: (1) year

*For unopened product.

Pot Life of Mixed Product:

30-45 minutes* @ 77°F (25°C) and 50% RH

*For extended pot life phone Endura technical dept.



Recommended Film Build Thickness and Cover Rate

Endura EP Hi Build Epoxy Primer has a recommended film build thickness of 3.5 - 7.0 mils dry.

Theoretical coverage at 1.0 mil (25 microns) DFT: 1264 ft² per gallon @ 100% transfer efficiency.



Drying Time*

	20°C (68°F)	30°C (86°F)	40°C (104°F)
Topcoat	5-6 Hours	4-5 Hours	3-4 Hours
Full Cure	7-9 Days	5-6 Days	3-4 Days

* Subject to ambient conditions (temperature and humidity) and good airflow. For improved scheduling please contact your Endura representative.

Specifications

Impact resistance (direct)	ASTM D2794	40 in.lbs: NO failure
Solvent resistance	ASTM D4752	50 MEK rubs: NO failure
Flexibility	ASTM D522	1/8 mandrel; NO failure

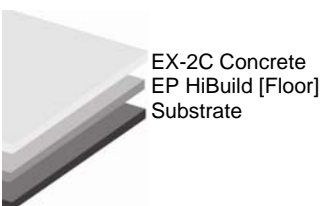


Clean Up

Endura high strength gun wash, Endura epoxy reducer or Endura EX-2C thinner.

Note

This data sheet is for **concrete flooring applications only**. Please see the EP HiBuild Epoxy Primer datasheet for other application information.



EX-2C Concrete

Endura EX-2C Concrete Topcoat is a two component highly cross-linked, high performance polyurethane for coating concrete floors. EX-2C Concrete coating provides outstanding resistance to chemicals, solvents, abrasions and impacts, and will provide an attractive easy to clean surface.

Product Features

- ◆ Outstanding resistance to chemicals, abrasion & impact
- ◆ Excellent protection against acids and alkalis
- ◆ Available in solid colors
- ◆ Available in medium and low gloss
- ◆ Easy clean surface

Theoretical Solids

Content:
Volume: 55%

Shelf Life*

Component A: (3) years
Component B: (1) year

*For unopened product.

Pot Life of Mixed Product:

10 Hours* @ 77°F (25°C) and 50% RH

* Less when Endura Super Catalyst II is used.

Pot life cannot be extended by adding thinner to product that is starting to gel.



Suitability

Endura EX-2C Concrete Topcoat is a high performance coating ideally suited for finishing concrete floors. It is extremely durable and abrasion resistant.



Surface Preparation

Ensure that the surface is free of flaws, nibs or imperfections. If large imperfections exist after primer coat use 120-150 grit sandpaper to remove them. Use a vacuum cleaner to remove all dust from the surface.



Mixing Ratio

EX-2C Concrete for Spray	EX-2C Concrete Rolling
1 part by volume of component A 1 part by volume of component B [FUB0100]	2 part by volume of component A 1 part by volume of Specialcomponent B [FUB0101]

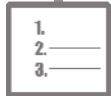
The recommended temperature when mixed is 20-25°C (68-77°F).

Environmental Conditions

For optimum coating performance product, substrate and ambient temperature should be between 20°C-25°C* (68°F-77°F). To prevent condensation during application the surface temperature must be 3°C (5°F) or more above the dew point at all times.
*for use outside this range please contact your Endura representative.

Viscosity

19 seconds - Using a Lemmer DIN 4 Cup (blue)
Application viscosity is achieved with reduction, as required, using Endura EX-2C slo thinner



Application Method

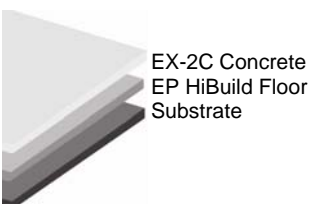
DO NOT apply when the surface is less then 3°C (5°F) above the dew point.

Pour 1 liter of mixed topcoat onto the floor and roll it out to the desired coverage (Between 50-100ft²)

Application Equipment

Use a short (1/8") pile roller. For areas over 1000ft² use a squeegee to spread out the urethane coatings then back roll with the short pile roller.

Please see the Epoxy/Urethane Concrete Coating system Application Guide for complete instructions.



EX-2C

Endura EX-2C Topcoat is a two component highly cross-linked, high performance polyurethane coating for protecting a wide range of surfaces. High gloss, color retention and outstanding resistance to chemicals, abrasion, and impacts, provide maximum protection and an impressive surface finish.

Product Features

- ◆ Outstanding resistance to chemicals, abrasion & impact
- ◆ Excellent protection against acids and alkalis
- ◆ Available in solid colors
- ◆ Available in medium and low gloss
- ◆ Easy clean surface

Theoretical Solids Content:

Volume: 55%

Shelf Life*

Component A: (3) years
Component B: (1) year

*For unopened product.

Pot Life of Mixed

Product:

10 Hours* @ 77°F (25°C) and 50% RH

* Less when Endura Super Catalyst II is used.

Pot life cannot be extended by adding thinner to product that is starting to gel.



Recommended Film Build Thickness and Cover Rate

Endura EX-2C Concrete Topcoat has a recommended film build thickness 2.0 – 3.0 mils dry.

Theoretical coverage approximately 100-150 ft² per liter.



Drying Time*

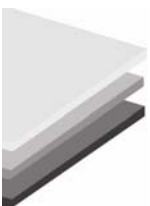
24 Hours after application of the topcoat the floor may be walked on. Heavy traffic should be avoided for at least four days. The coating will reach full cure after 14 days

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

* Subject to ambient conditions (temperature and humidity) and good airflow. For improved scheduling 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	32 mg loss
Impact resistance	ASTM D2794	40 in. lbs: NO failure
Flexibility	ASTM D522	1/8 mandrel bend; NO failure
VOC	For VOC amounts please refer to the product MSDS	



EX-2C Concrete
EP HiBuild Floor
Substrate



Clean Up

Endura high strength gun wash, Endura epoxy reducer or Endura EX-2C thinner.