

# EPOXAL<sup>®</sup> 100 HP

Series 3000

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## PRODUCT DESCRIPTION:

EPOXAL 100 HP is a high performance solvent-free, two-component, thermosetting, high-build, 100% solids epoxy coating. Designed to perform with excellent abrasion resistance, toughness and durability, EPOXAL 100 HP is ideal as a multi-purpose coating. Suitable for use with many of the NPC System Series.

## PRODUCT FEATURES:

- 100% solids formulation means this is an odourless product formulated without solvents.
- Self-leveling, EPOXAL 100 HP is easily applied by brush, roller or squeegee methods.
- May be applied to previously coated surfaces, which are properly prepared.
- Hard and abrasion resistant seamless coating, will stand up to industrial vehicular traffic and can still be easily cleaned and maintained.
- Good resistance to concentrated inorganic acids.
- Available in virtually any colour.
- Blush free and crystal resistant technology.

## TYPICAL USES:

- Used in conjunction with other NPC flooring systems as a primer, binder and topcoat.
- Light to medium duty industrial floors, (i.e. warehouse or production areas subject to forklift traffic).
- Sanitary environments subjected to constant cleaning, (i.e. laboratories, clean rooms, food production areas, washrooms).
- Commercial and retail flooring.

## TECHNICAL DATA

**POT LIFE:** 35 minutes @ 21°C (70°F)  
(decreases at higher temperatures)

**PACKAGING:** 3L, 3 Gal. and 15 Gal.  
Units.

<b>SHELF LIFE:</b>	1 year in unopened container @ minimum 20°C(68°F)
<b>COLOUR:</b>	Clear and Colours
<b>SHEEN:</b>	Gloss
<b>MIXING RATIO:</b>	2:1 100 HP Resin to 100 HP Catalyst (by volume)
<b>VOLUME SOLIDS:</b>	100% - 0 V.O.C.
<b>THEORETICAL COVERAGE:</b>	1604 sq.ft./US Gal. @ 1 mil DFT
<b>RECOMMENDED DFT:</b>	10 to 30 mils(min. two coats)
<b>CURE TIME @22°C (72°F):</b>	<b>Dry to touch: 4-5 hrs.</b> Recoat: 8-10 hrs. Light traffic: 24 hrs. Full Cure 7 days
<b>MIXED VISCOSITY @ 25°C (77°F):</b>	700 ±200 CPS (ASTM D445-83)
<b>CLEANUP:</b>	NPC Epoxal Thinners

## PERFORMANCE DATA

Typical Performance After 7 Days Cure @ 25°C (77°F)

<b>COMPRESSIVE STRENGTH:</b>	10,370 PSI (ASTM 695-85)
<b>TENSILE STRENGTH:</b>	6,860 PSI (ASTM 695-85)
<b>TENSILE MODULUS:</b>	213 PSI (ASTM D638-86)
<b>TENSILE ELONGATION:</b>	10.0 % (ASTM D638-86)
<b>FLEXURAL STRENGTH:</b>	10,610 PSI (ASTM D790-86)
<b>FLEXURAL MODULUS:</b>	383 PSI (ASTM D790-86)
<b>HARDNESS:</b>	82(SHORE D)
<b>ABRASION RESISTANCE:</b>	.033g (ASTM D4060-90)
<b>MAR RESISTANCE:</b>	1.0 Kg (ASTM D5178-91)

## SURFACE PREPARATION:

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### New Concrete Preparation:

All surfaces to be coated must be clean, dry and free of all contaminants. New concrete must be cured a minimum of 28 days with no more than 4% moisture content. Any curing or hardening compounds, form oils, release agents or laitance must be removed by means of mechanical abrasion. Shot blasting or diamond grinding are the recommended methods. These two means of mechanical abrasion will clean the surface and open the pores of the concrete to allow maximum penetration of the primer. Ensure the methods of mechanical abrasion are dust-free.

### Existing Concrete Preparation:

Ensure all loose concrete is removed, using a scarifier, diamond grinder, bush hammer or other methods. Remove any contamination, including grease and oil using an industrial cleaner. (Consult your NPC representative for recommended cleaners) Prepare the entire floor by method of a shot blaster, or diamond grinder. Patch any uneven or damaged concrete using "NPC Epoxal 100 Patch" or consult your NPC representative for further instructions.

Existing coated surfaces must be intact and tightly bonded to substrate below. If stability of existing coating is in question, test a small section and check for lifting. Hard or glossy surfaces must be abraded to improve adhesion performance. *NPC will not warrant the application of Epoxal coatings over an existing paint or urethane.*

### Wood Preparation:

All wood surfaces to be coated must be clean, dry and free of all contaminants. The wood surface must be very rigid, with no possible movement. Fill any voids, or seams with NPC "Epoxal 100 Patch"

### PRIMING:

EPOXAL 100 HP is a suitable primer for most applications over concrete. If a lower viscosity primer

is required to ensure maximum bond strength, we recommend Epoxal 100 Primer. If the concrete substrate has recently been subjected to moisture, we recommend Epoxal 100 DCP. *(Please consult your NPC representative for further details about Epoxal 100DCP.)*

Apply all of aforementioned primers at a spread rate of 4-6 mils. If the spread rate is less than 4 mils, the substrate may not be properly sealed. If the spread rate is greater than 6 mils it increases the probability of bubbles caused by out gassing.

### MIXING:

***EPOXAL 100 HP is always mixed at a ratio of 2 Parts A to 1 Part B by volume.*** Always premix the Part A (resin) component of the mixture thoroughly. EPOXAL 100 HP is supplied in different quantities. 3L units can be mixed in the original container by adding the Part B into the Part A. 3 Gal. units can be mixed in a clean 5 Gal. container by adding the Part B into the Part A. 15 Gal. units must be mixed in smaller quantities. Ensure Part A is premixed, then measure accurately by volume 1 Part B into 2 Parts A in a clean mixing container.

***Always mix the two components for a full 3 minutes with a jiffy mixer.***

### APPLICATION:

- Step1.* Mix the material according to instructions provided.
- Step2.* Pour the mixed material on the prepared floor immediately.
- Step3.* Spread over the desired area using a rubber squeegee or flexible trowel to achieve uniform thickness. Brush any edges around walls or permanent objects.
- Step4.* Saturate a medium nap roller and back roll the material to remove any squeegee lines and provide an aesthetically pleasing finish.

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- Step5.* Allow coating to cure.
- Step6.* Repeat this process for the second and any further coats.

***For a proper bond additional coats must be applied within 24-48 hours after the completion of the first coat, depending on temperature.*** If this window is surpassed, mechanical abrasion must be used to prepare the coating before any further coats. NPC recommends a minimum of two coats, with the prime coat being 5-7 mils. The second coat should be applied at a thickness of 10-14 mils to provide a smooth uniform coat.

***Do not wait more than 10 minutes between applying mixes of material to the floor.*** Waiting longer between mixes may cause problems with working properties and colour consistency. This will produce a smooth pinhole free surface. If there are any pinholes, an additional coat should be applied.

***To achieve a textured finish, a final coat can be applied.***

- Step1.* Mix the material according to instructions provided.
- Step2.* Spread the mixed material at a thickness of 5-6 mils with a rubber squeegee and back roll with a saturated medium nap roller.
- Step3.* Using a hopper blower, broadcast a small amount of graded silica sand over the entire floor. Silica #55 will create a medium texture that is non-slip, and relatively easy to clean.
- Step4.* Back roll the coating immediately to encapsulate the sand and to achieve a uniform textured surface.
- Step5.* Allow coating to cure.

## CURING:

At a temperature of 22°C (72°F), EPOXAL 100 HP will be tack free within 4-5 hours. It will support light traffic at 24 hours and will reach full cure and chemical resistance in 7 days.

## LIMITATIONS:

- This product must be applied to a substrate with a minimum temperature of 16°C (61°F).
- This product will amber if it is under prolonged ultra violet light.
- This product is not recommended for areas that are exposed to severe thermal shock.
- Working time and cure times are very dependant on temperature.
- Maintain a constant temperature before and during application period, and until coating is cured.

## EPOXAL 100 HP CHEMICAL AND SOLVENT RESISTANCE TESTING

[After 7 days curing at 25°C(77°F)]

### Reagents

15% Resorcinol solution	G
30% H <sub>2</sub> SO <sub>4</sub>	G
50% Caustic Soda	G
Acetic Acid (glacial)	S
Acetone	G
Alcohols (ethyl, methyl, propyl, isopropyl and butyl)	S
Beers	E
Benzoyl Alcohol	NR
Brake Fluid	S
Butyl Cellosolve	S

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Carbonated Drinks (Cola)	G
Chlorinated Hydrocarbon	S
Concentrated H <sub>2</sub> SO <sub>4</sub> (98%)	S
Concentrate HCl	G
Concentrated Nitric Acid (69-71%)	G
Concentrated Phosphoric Acid (85%)	S
Diacetone Alcohol	G
Diesel Oil	E
Diluted HCl	G
Distilled and tap water	E
Fruit Juices	G
Gasoline	E
High Flash Naphtha	G
Household Bleach	G
Hydrogen Peroxide	NR
Lactic Acid	S
MEK	S
Methyl Pyrrodiline	S
Mustard	G
Phenol	NR
Toluene	G
Tomato Ketchup	E
Vinegar (5% Acetic Acid)	S
Wines	E
Xylene	G

### Rating References

E= Excellent, G= Good (may stain but no change in film condition), S= Suitable for occasional spillage, NR= Not recommended (film destroyed)

NOTE: The above data is solely based on lab testing done under strictly controlled conditions. Ambient temperature was used for all testing. No warranty can be given as to the accuracy of this information as it will depend upon conditions at actual project locations, which are beyond our control.