NIPPON PAINT EA9 FINISH HB

Updated Jan'25

NIPPON PAINT EA9 FINISH HB is a two-pack amine-adduct cured epoxy specially developed to achieve long term corrosion protection for many types of surfaces i.e., aluminium, galvanized iron, steelwork, concrete, GRP, masonry, tiles, aluminium/zinc alloy coated steel and phenolic sheeting. This feature combined with its wide range of resistance properties make **NIPPON PAINT EA9 FINISH HB** a durable, high performance and economical coating for immersion as well as non-immersion services. **NIPPON PAINT EA9 FINISH HB** system has been extensively used for long term corrosion protection lining of storage tank for palm oil derivatives, vegetable oil, potable water etc.

Product Features:

- Good resistance to abrasion and mechanical damage
- Excellent on correctly prepared surfaces
- Outstanding resistance to aqueous solutions and a wide range of industrial chemicals
- Dry service temperature range up to 100°C
- Tested in accordance to BS 6920 for contact with potable water

Paint Type	Product Type	Finishing	Recommended Substrate	Pack Size
Solvent	Interior	Low Gloss As per colour card	Steel, aluminium galvanized iron, aluminium/zinc alloy coated steel, stainless steel, GRP, masonry and tile	5 L (4.5L Base and 0.5L Hardener) 20 L (18L Base and 2L Hardener)

Composition

Pigment	: Inorganic pigments and extender
Binder	: Epoxy and amine adduct
Thinner	: Combination of aromatic, ketone and alcohol

Technical Data

Drying Time (25-30°C)	: Touch Dry : 1 - 2 hours (Dependent on temperature and humidity) : Hard Dry : 4 - 5 hours (Dependent on temperature and humidity)
Overcoating Time (25-30°C)	: Minimum 16 hours (Dependent on temperature and humidity)
Curing Time (25-30°C)	: 6 - 7 days (Dependent on temperature and humidity).
Typical Thickness	: 80 - 150 μm dry film per coat 150 - 275 μm wet film per coat
No. of Coats	: 1 - 2 coats
Theoretical Coverage	: 6.8 m^2 per litre per coat (for dry film thickness of 80 microns) : 3.6 m^2 per litre per coat (for dry film thickness of 150 microns)
Practical Coverage (40% Loss Factor, as a guideline)	: 4.1 m^2/litre (for dry film thickness of 80 microns) 2.2 m^2/litre (for dry film thickness of 150 microns)
Volume Solid	: 55 ± 2% by volume
Specific Gravity	: 1.25 – 1.38 (for mixture of base and hardener)
Mixing Ratio	: 9 parts by volume of Base to 1 part by volume of Hardener. (*Stir the content of the Base component, continue stirring and gradually add the total contents of the Hardener component, continue stirring until a homogeneous mix is obtained.)*
Pot Life (25-30°C)	: 4 - 6 hours after mixing
Shelf Life	: Up to 24 months in tight sealed container **(Subjected to reinspection after exceeding shelf-life period)**

Application Method

Brush, roller, compressed air spray and airless spray. Preferably use airless spray if a thicker coat is required in one application. Brush, roller and compressed air spray generally lead to

lower film thickness, so more applications may be required to obtain the recommended thickness per coat.
When airless spray is being used, excessive high tip spraying pressure should be avoided. The minimum pressure at the pump conducive with good atomisation should be used. Brush and roller are recommended for small areas and touch-up only. Good quality brushes and mohair/ short nap rollers should be used with full strokes. Avoid rebrushing. Additional coats may be required to achieve minimum specified film thickness.

For thinning, substitute thinners other than those approved or supplied by Nippon Paint may adversely affect the product performance and void product warranty whether expressed or implied.

Drying time will become remarkably delayed under low temperature. Overcoating the previous
coat should be done within 6 ~ 7 days but preferably as soon as possible after it has been allowed 16 hours drying or else, it is desirable to roughen it by dry sanding with sandpaper before it is overcoated. This is to ensure proper intercoat adhesion. Exposure of the paint film to water, chemical and abrasion should be avoided as far as possible before full cure of the coating. When chalking occurs, chalks should be removed by water washing. Allow the surface to dry thoroughly prior to overcoating.

For Nippon Paint EA9 Finish HB as a primer on concrete/cement floor, the recommended dilution of 5 – 10% with a suitable thinner by volume for improved adhesion. Dilution of 100% with appropriate thinner shall only be recommended for penetration into concrete/cement floor purposes.

Thinner	: SA-65 Thinner
Brush / Roller	: If necessary, add up to 5% thinner by volume.
Compressed Air Spray	: If necessary, add about 10% to 15% thinner by volume
Airless Spray	: Delivery pressure : 140 -170 kg/cm^2
	: Tip size : 0.015" – 0.017"
	: Spray angle : 60° - 70°
	: Dilution : Up to 5% thinner by volume

Recommended Coating System

Concrete / Plastered Wall

Primer	: Nippon Paint EA9 Finish HB	: 1 Coat
Top Coat	: Nippon Paint PU Recoatable Finish	: 2 Coats

Concrete / Cement Floor

Primer	: Nippon Paint EA9 Finish HB*	: 1 Coat
Top Coat	: Nippon Paint EA4 Finish / Nippon Paint EA4 Finish Non-Skid	: 2 Coats

**Refer to Application Method for dilution conditions*

Steel

Primer	: Nippon Paint EA9 Red Oxide Primer	: 1 Coat
Intermediate	: Nippon Paint EA9 Finish HB	: 1 Coat
Top Coat	: Nippon Paint EA9 Finish HB	: 1 Coat

Galvanized Iron / Aluminium / Stainless Steel / GRP / Zinc Alloy Coated Steel

Primer	: Nippon Paint EA9 Finish HB	: 1 Coat
Intermediate	: Nippon Paint EA9 Finish HB	: 1 Coat
Top Coat	: Nippon Paint PU Recoatable Finish	: 1 Coat
Tiles / Ceramic Surfaces		
Primer	: Nippon Paint EA9 Finish HB	: 1 Coat
Top Coat	: Nippon Paint EA4 Finish/ Nippon Paint PU Recoatable Finish	: 2 Coats
Internal Tanks / Silo*		
Primer	: Nippon Paint EA9 Red Oxide Primer	: 1 Coat
Intermediate	: Nippon Paint EA9 Finish HB	: 1 Coat
Top Coat	: Nippon Paint EA9 Finish HB	: 1 Coat

** Kindly seek assistance from a Nippon Paint representative for guidance regarding the appropriate cargo and service temperature of internal tanks/silo.*

Surface Preparation

STEEL, INTERNAL STORAGE/SILO (IMMERSION SERVICE)

For optimum performance, abrasive blasting in accordance to **Sa 2½ ISO 8501-1:2007 is** desirable. It is important that the standard should be maintained until the paint is applied on. If the steel changes colour or rust bloom begins to form, it will be necessary to reblast the steel. The surface must be dry and free from any abrasive residues, dirt, oil and grease and other contaminants prior to painting. For internal storage/silo that are under immersion services, abrasive blasting must be conducted until in accordance to **Sa 2½ ISO 8501-1:2007**.

GALVANIZED IRON, ALUMINIUM AND STAINLESS STEEL

New galvanised surface requires to be degreased in accordance to **SSPC-SP1**. For old galvanised surface, it must be abraded to remove corrosion deposits. All surfaces must be dry and free from oil and grease prior to painting. For optimum performance, the surface must be lightly abrasive blasted. If blasting is not possible, abrade with 120 grade paper, clean and dry prior to painting.

WALL

Remove all loose, defective paint or powdery residues, laitance, loose chalk, dust, fungus, algae and foreign matter. Treat any areas affected by fungus growth with Fungicidal Wash Solution. Repair cracks, uneven surfaces with suitable exterior grade fillers. Smoothen the filler areas with sand paper. Surfaces to be painted must be cleaned thoroughly and dry, it must be free from dirt, grease and other foreign matters. Allow all surfaces to dry completely prior to painting. Avoid painting when the moisture content and alkalinity of the walls are still high. (Recommended painting specification requires the moisture content of the walls to be below 16% measured by protimeter and alkalinity of the walls to be below pH9.)

CONCRETE FLOOR

Surfaces should be clean, dry and free from oil, grease and contaminants before painting. For previously painted surfaces, remove all unstable paint film, loose chalk, dust and foreign matter. Repair any surface defects, clean off and dry. Avoid painting on the substrate with high moisture content.

<u>For New Concrete Floor</u>

- The standard cure time for most fresh concrete or masonry applications is generally considered to be 28 days at 23°C and relative humidity 50%. It should be allowed to cure until moisture content is below 4% and pH value below 9.
- Repair and seal cracks or holes. Loose concrete and residues on the concrete surface to be painted should be removed as completely as possible.
- Etch the surface with 5% hydrochloric acid solution for 3 to 5 minutes and flush off thoroughly to remove acid residue and salt deposits that may have formed after etching. The purposes of acid etching are to neutralize the surface and to remove any glaze or contaminant. However, acid etching will not remove oil or grease. Therefore, the concrete should be scrubbed clean with detergent/soap prior to acid etching. The surface must be rinsed immediately after acid etching is performed to avoid formation of salts on the surface, which are difficult to remove.
- The surface should be cleaned and must be allowed to dry thoroughly prior to painting.

<u>For Old or Repainting Concrete Floor</u>

- Water jet to get rid of oil/grease deposits, mold & any growth, other contaminants etc. Apply degreasing agent and flush clean. Spot clean with solvent for areas are still contaminated. If water jetting is not possible, then mechanical removal of these deposits must be done.
- Prior to mechanical surface preparation, it is important that concrete and masonry are free of contaminants.

- For repainting, in order to enhance the performance of the new painting systems, it is necessary for complete removal of existing old paint film on floor surface layer via mechanical grinding. Grinding is suggested to be done wet to minimise dust problem. The floor must be cleaned of dirt/dust contaminants after grinding.
- The surface should be cleaned and must be allowed to dry thoroughly prior to painting.

References:

1) ASTM D4258 – Standard Practice for Surface Cleaning Concrete for Coating
2) ASTM D4259 – Standard Practice for Abrading Concrete
3) ASTM D4260 – Standard Practice for Acid Etching Concrete
4) NACE No. 6 / SSPC (Society of Protective Coating) SP-13 – Surface Preparation of Concrete
5) ICRI (International Concrete Repair Institute) Technical Guideline No. 03732 – Standard of Concrete Surface Profile / Roughness

Cleaning

Cleaning Solvent : SA-65 Thinner. Clean up equipment with thinner immediately after use.

Environmental Conditions During Application

- Do not apply when the relative humidity exceeds 85% or when the surface to be coated is less than 3°C above the dew point.
- Do not apply at temperature below 7°C. If not, drying and overcoating times will be considerably extended.
- During application of the paint, naked flame, welding operations and smoking should not be allowed and good ventilation is necessary.

Safety Precautions

- Keep container tightly closed and keep out of reach children or away from food and drink.
- Ensure good ventilation during application and drying.
- When applying paint, it is advisable to wear eye protection.
- In case of contact with eye, rinse with plenty of water immediately and seek medical advice.
- Remove splashes from skin by using soap or water.
- Paint must always be stored in a cool place.
- When transporting paint, care must be taken. Always keep container in a secure upright position.
- Dispose any paint waste in accordance with the appropriate Environment Quality Regulations.

Note

* Theoretical Coverage is based on a mathematical formula and does not consider Loss Factor.

$$\left[\frac{Volume\ Solid\ \%\ x\ 10}{Dry\ Film\ Thickness\ (\mu)}\right] = \mathrm{m}^2/\mathrm{lit/coat}$$

This theoretical coverage rate has been calculated from the volume solids of the material and is related to the amount of coating applied onto a perfectly smooth surface without wastage. For a practical coverage rate, due allowance should be made for atmospheric conditions, surface roughness, geometry of the article being coated, the skill of applicator, method of application etc. when estimating quantities required for a particular job.

The above information is given to the best of our knowledge based on laboratory tests and practical experience.
However, since we cannot anticipate or control the many conditions under which our products may be used, we can only guarantee the quality of the product itself.
We reserve the right to alter the given without prior notice.