

PRODUCT DESCRIPTION

Hi-Pon 90-11 STE SF is a two-pack, surface-tolerant, solvent-free modified epoxy coating. Suitable for properly prepared carbon steel, shop primed steel and concrete in atmospheric and immersed environments. It has good tolerance to application over damp surfaces and it can be applied without dew point restriction. It can be applied to wet blast or ultra-high pressure water cleaned substrates.

INTENDED USE

It is designed for use in highly corrosive environments where optimum surface preparation is not possible. Recommended for offshore environments, cofferdam, refineries, power plants, bridges, ballast tanks, wet spaces and general structural steels. Suitable for new building, maintenance and refurbishment projects.

GENERAL PROPERTIES

| | |
|--------------------------|---|
| Colour | : Off-White, Grey & Aluminium Red |
| Gloss Level | : Gloss |
| Volume Solid | : 100 % (Theoretical) [Refer to Application Guide Section] |
| Specific Gravity | : 1.41 ± 0.05 kg/l (Mixed) |
| Flash Point | : Base: 23 °C Hardener: 13.3 °C Mix: 13.3 °C |
| VOC | : 61 g/L (EPA Method 24) |
| Typical Thickness | : 100 – 200 µm dry film 111 – 222 µm wet film |

SURFACE PREPARATION

All surfaces should be clean dry, and free from contamination. The surface should be assessed and treated in accordance with ISO 8504. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Abrasive Blast Cleaning

For optimum performance, abrasive blast clean to Sa 2½ (ISO 8501-1) or SSPC-SP10 with a surface profile of 50 – 75 microns (2 – 3 mils). If oxidation has occurred between the blasting and application of this product, the surface should be re-blasted to the specified visual standard. Surface defect revealed by the blast cleaning process should be ground, filled or treated in the appropriate manner.

Hand or Power Tool Cleaning

Hand or power tool clean to a minimum St3 (ISO 8501-1) or SSPC-SP3. Note, all scale must be removed and areas which cannot be prepared adequately by chipping or needle gun should be spot blasted to a minimum standard of Sa 2 (ISO 8501-1) or SSPC-SP6.

Shop Primed Surface

This product is suitable for application to the unweathered steelwork freshly

coated with approved shop primers. Other types of shop primer are not suitable for over coating and will required complete removal by abrasive blast cleaning. Weld seams and damaged areas should be blast cleaned to Sa 2½ (ISO 8501-1) or SSPC-SP10, to achieve surface profile 50 – 75 µm.

Concrete Substrates

New concrete shall be properly cured prior to coating application. All surfaces should be clean and free from laitance, curing compounds, release agents, efflorescence, grease, oil, dirt, organic growth, old coatings and loose or disintegrating concrete. Surface preparation should be done in accordance to SSPC-SP13 / NACE No. 6. A suitable primer or sealer is required prior to coating application.

Aged Coatings

Suitable for overcoating a limited range of tightly adherent aged coatings. Any loose or flaking coatings should be removed back to a firm edge before application.

Other Surfaces

The coating may be used on other substrates. Please contact your local Nippon Paint office for more information.

CONDITION DURING APPLICATION

Avoid paint application when the temperature is below 10 °C. There is no restrictions regarding dew point temperatures and relative humidity during application.

APPLICATION GUIDE

Mixing Ratio : **BASE** : **HARDENER**
3 : 1 (by volume)

Base and hardener should be mixed thoroughly before use with a mechanical agitator

Pot Life : 25 °C
3 hours

Theoretical Coverage : 9.0 m²/litre at 100 µm DFT (90 % VS Practical)
6.0 m²/litre at 150 µm DFT (90 % VS Practical)

Thinner : Do not thin

Cleaner : Hi-Pon Epoxy Thinner

APPLICATION METHOD

Airless spray is recommended for application. Brush and roller are recommended for stripe coating and small areas. Care must be taken to achieve the specified dry film thickness.

APPLICATION DETAILS

| | | | |
|----------------------|-------------------------|-------------------|--------------|
| Airless Spray | : Tip Size | : 0.015" – 0.026" | |
| | Pressure at nozzle | : > 170 bar | |
| Drying Time | : Substrate Temperature | <u>25 °C</u> | <u>40 °C</u> |
| | Surface Dry | 6 hrs | 3 hrs |
| | Hard Dry | 24 hrs | 16 hrs |
| | Cured | 7 days | 4 days |
| | Dry to Overcoat (min) | 24 hrs | 16 hrs |
| | Dry to Overcoat (max) | 14 days | 5 days |
| | Dry to Recoat (max) | Extended | |

Remarks: Where an "extended" overcoating time is stated, consult Nippon Paint Protective Coatings for recommended surface preparation to achieve optimal intercoat adhesion.

Early immersion will lead to a slight whitening of colours, especially on darker colours. The anti-corrosive performance is however not affected.

The given data must be considered as guidelines only. The actual drying time/times before recoating may be shorter or longer, depending on film thickness, ventilation, humidity, underlying paint system, requirement for early handling and mechanical strength etc. A complete system can be described on a system sheet, where all parameters and special conditions could be included.

HEAT RESISTANCE
Dry, Atmospheric

- Continuous : 80 °C
- Minimum : - 40 °C
- Intermittent : 100 °C

Wet, Immersed

- Fresh Water : 50 °C

Intermittent temperature duration – 1 hour maximum

The temperatures listed relate to retention of protective properties. Aesthetic properties may suffer at these temperatures. Heat resistance is influenced by the total coating system. If used as part of a system, ensure all coatings in the system have similar heat resistance.

**RECOMMENDED
COATING SYSTEM**

Hi-Pon 90-11 is normally applied directly to steel; however, it can also be applied over the following primers:

Shop Primer:

- Zinky-10 Inorganic Zinc Shop Primer

Primer:

- Zinky-13 Inorganic Zinc Rich Primer 85
- Zinky-22 Epoxy Zinc Rich Primer 80
- Hi-Pon 20-04 STE IM 80
- Hi-Pon 20-10 Epoxy Zinc Phosphate 63
- Hi-Pon 90-10 Penetrating Epoxy SF

Top Coat:

- Hi-Pon 40-02 Epoxy Top Coat
- Hi-Pon 40-04 Epoxy Top Coat
- Hi-Pon 50-01 Polyurethane Top Coat

For the choice of coating system for different application, refer to the product brochure or contact Nippon Paint for professional recommendation.

PACKAGING

| <u>Unit</u> | <u>Base</u> | | <u>Hardener</u> | |
|-------------|---------------|-----------------------|-----------------|-----------------------|
| | <u>Volume</u> | <u>Container Size</u> | <u>Volume</u> | <u>Container Size</u> |
| 4 L | 3 L | 5 L | 1 L | 1 L |
| 20 L | 15 L | 20 L | 5 L | 5 L |

STORAGE

Shelf Life Base : 12 months (25 °C)
 Hardener : 12 months (25 °C)

Subject to re-inspection thereafter. Higher temperature during storage may reduce the shelf life and may lead to gelling in the tin. Frequent temperature cycles may also shorten the shelf life.

Store in tightly closed container in a dry, cool and well-ventilated space, keep away from sources of heat and ignition.

SAFETY PRECAUTION

- This product is intended for use of professional applicators. Refer to the safety information display on the container and in the safety data sheet (SDS) before using the product.
- Use this product in well-ventilated area, avoid skin contact, spillage on the skin should immediately be removed with suitable cleanser, soap and water.
- Eye should be well flush with water and seek for medical attention immediately upon contact with this product.
- During the application, naked flame, welding operation and smoking is not allowed. Adequate ventilation should be provided.
- If you have any doubt regarding the suitability of use, refer to Nippon Paint for further advice.

DISCLAIMER

The information in this data sheet is given to the best of Nippon Paint's knowledge and practical experience. Users may consult with Nippon Paint on the general suitability of the product for their needs and specific application practices though it remains each user's responsibility to determine the suitability of the product for the user's particular use. The condition of the substrate and application are not within Nippon Paint's control. Therefore, no implied conditions, warranties or other terms will apply to the Product. Nippon Paint does not and cannot warrant the results which the user may obtain by using the product. In no event will Nippon Paint be liable to the user for any kind of loss (whether direct or indirect) even if Nippon Paint was previously advised of it. In line with Nippon Paint's policy for continuous development, Nippon Paint reserves the right to modify the product and the information in this data sheet without prior notice. It is the user's responsibility to check with Nippon Paint for the latest version of this data sheet. This data sheet has been translated into various languages. In the event of any inconsistency, the English version shall prevail.