

**PRODUCT  
DESCRIPTION**

**Zinky-12 Inorganic Zinc Rich Primer 77** is a two-pack, solvent-based inorganic zinc ethyl silicate coating. It is suitable for use on steel as a primer for high performance systems and as a single treatment coating for a variety of marine environment. It prevents corrosion and provides excellent resistance to weathering, abrasion, impact, heat and many solvents. It has been tested for Slip Coefficient and Creep Resistance, using ASTM A490 bolts and meets Class B requirements by RCSC Specification for Structural Joints Using High-Strength Bolts (Appendix A).

The level of zinc dust by weight present in the dried film conforms to SSPC- Paint 20 (Level 2). The type of zinc dust used complies with ASTM D 520 (Type II).

**INTENDED USE**

It is designed for severe corrosive environments such as offshore platforms, petrochemical complexes, gas and petroleum refineries, pulp and paper mills and corrosive chemical plants. Provide excellent corrosion protection of properly prepared carbon steel exposed up to temperature of 540 °C, with suitable top coat.

- Tested in accordance with JIS K 5553 Class 1 (Report No.: 211769)
- Tested in accordance with the Research Council on Structural Connections, Specification for Structural Joints using High Strength Bolts (Slip Coefficient and Creep Resistance)

**GENERAL  
PROPERTIES**

<b>Colour</b>	: Grey
<b>Gloss Level</b>	: Matt
<b>Volume Solid</b>	: 62 ± 2 %
<b>Specific Gravity</b>	: 2.18 ± 0.05 kg/l (Mixed)
<b>Flash Point</b>	: Base: 23 °C    Hardener: N/A    Mix: 23 °C
<b>VOC</b>	: 510 g/L (EPA Method 24)
<b>Typical Thickness</b>	: 50 – 75 µm dry film 81 – 121 µm wet film

Comply with National technical regulation QCVN 08:2020/BCT on limits of Lead content in paints.

**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

**TECHNICAL DATA SHEET**

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.

Damaged Area

Damage area should be prepared with abrasive blast cleaning to Sa 2½ (ISO 8501-1) or SSPC-SP10. Zinky-12 should be applied over a surface that is dry and free from all contamination. When abrasive blasting is not possible, mechanical cleaning to SSPC-SP11 is acceptable as long as the surface is not polished. After surface preparation, the damaged areas should be repaired using Zinky-22 or another recommended zinc epoxy primer. For specific product recommendations, consult Nippon Paint Protective Coatings.

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 and above 45 °C, or humidity is below 50 %. Increase the humidity by spraying water when humidity is below 50 %. To achieve the best film performance, humidity should be kept above 65 %. The temperature of steel surface must be minimum 3 °C above dew point of surrounding air.

**APPLICATION GUIDE**

**Mixing Ratio** : **BASE : HARDENER**  
4.5 : 1 (by volume)

Add Hardener (Zinc Powder) into Base and mixed thoroughly before use with a mechanical agitator.

**Pot Life** : 25 °C  
4 hours

**Theoretical Coverage** : 12.4 m<sup>2</sup>/litre at 50 µm DFT  
8.3 m<sup>2</sup>/litre at 75 µm DFT

**Thinner** : Zinky-2000 Thinner

**Cleaner** : Zinky-2000 Thinner

**APPLICATION  
METHOD**

Conventional air and airless spray are 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. Avoid mud cracking.

### TECHNICAL DATA SHEET

#### APPLICATION DETAILS

**Conventional air spray:** Tip size : 1.5mm-2.2mm  
Pressure at nozzle : 2-4 bar

**Airless Spray** : Tip Size : 0.015" – 0.023"  
Pressure at nozzle : 120 – 150 bar

**Drying Time** : Substrate Temperature 25 °C 40 °C  
Surface Dry 10 mins 5 mins  
Through Dry 2 hrs 1 hr  
Cured 4.5 hrs 2 hrs  
Dry to Overcoat (min) 4.5 hrs 2 hrs  
Dry to Overcoat (max) Extended

**Remarks:** All zinc salts should be removed prior to overcoating. Curing time and overcoat period are depending on humidity conditions.

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

It is recommended that prior to overcoating a solvent rub test to ASTM D4752 should be undertaken. A value of 4 indicates a satisfactory degree of cure for overcoating purposes.

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 : 400 °C
- Minimum : - 40 °C
- Intermittent : 540 °C

Intermittent temperature duration – 1 hour maximum

This product can withstand dry heat exposure of up to 540 °C for prolonged periods when applied at 50 µm DFT and finished with a suitable topcoat.

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**

The following coating systems are recommended for Zinky-12 Inorganic Zinc Rich Primer 77:

**Intermediate:**

- Hi-Pon 20-04 STE 80
- Hi-Pon 20-04 STE IM 80
- Hi-Pon 30-02 Epoxy MIO 80
- Hi-Pon 30-03 Epoxy Midcoat 80

**Top Coat:**

- Hi-Pon 40-04 Epoxy Top Coat
- Hi-Pon 50-01 AS Polyurethane Top Coat
- Hi-Pon 50-07 Polysiloxane Top Coat
- Hi-Floro 6738 Fluorocarbon Top Coat

**High Temperature Top Coat:**

- Hi-Pon 400HT
- Hi-Pon 600HT Top Coat

For overcoating on zinc silicate primer, a mist coat of subsequent coating is required to minimize pinholing.

For high temperature systems, the thickness of Zinky-12 should be restricted to 50 µm dry film.

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

**PACKAGING**

Unit	Base		Hardener	
	Weight	Container Size	Weight	Container Size
4.90L	4.01 L	5 L	0.89 L	5 L

**STORAGE**

**Shelf Life**      Base : 6 months (25 °C) minimum  
                         Hardener : 24 months (25 °C) minimum

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.
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**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.**