

**NIPPON PAINT 9049 GR**
*Updated Jun'23*

**NIPPON PAINT 9049 GR** is a two-pack surface tolerant epoxy cycloaliphatic amine with GrapheneTec+ technology, which incorporates graphene into the coating providing a high build impervious barrier coating that gives excellent adhesion and surface wetting properties on manually prepared, rusty steelwork and steel surfaces that cannot be abrasive blast cleaned and hydro-blasted. With the GrapheneTec+ technology, barrier and anti-corrosion performance are further enhanced in virtually any environment. **NIPPON PAINT 9049 GR** can be used either as a high build primer or a self-priming high build finish under immersion as well as non-immersion services.

**Product Features:**

- With GrapheneTec+ technology
- Excellent corrosion & chemical resistance
- Excellent resistance penetration by moisture and corrosive ions
- Outstanding tolerance to manually prepared surfaces
- Can be used as a self-finishing system against a wide range of industrial chemicals

Paint Type	Product Type	Finishing	Recommended Substrate	Pack Size
Solvent based	Interior	Soft Matt	Steel	5 L (4.3L Base and 0.7L Hardener) 20 L (17.2L Base and 2.8L Hardener)

**Composition**

Pigment	: Inorganic pigment, extender and graphene
Binder	: Epoxy and cycloaliphatic amine
Thinner	: Combination of aromatic, ketone and alcohol

**Technical Data**

Drying Time (25-30°C)	: Touch Dry : 1 hour : Hard Dry : 6 hours
Overcoating Time (25-30°C)	: Minimum 16 hours
Curing Time (25-30°C)	: 6-7 days (Dependent on temperature and humidity)
Typical Thickness	: 200 ~ 500 microns for dry film 244 ~ 610 microns for wet film
No. of Coats	: 1 - 2coat
Theoretical Coverage	: 4.1 m <sup>2</sup> /litre (for dry film thickness of 200 microns) 1.6 m <sup>2</sup> /litre (for dry film thickness of 500 microns)
Practical Coverage (40% Loss Factor, as a guideline)	: 2.5 m <sup>2</sup> /litre (for dry film thickness of 200 microns) 1.0 m <sup>2</sup> /litre (for dry film thickness of 500 microns):
Volume Solid	: 82 ± 2% by volume
Specific Gravity	: 1.85 – 2.15 (for mixture of Base and Hardener)
Mixing Ratio	: 6 parts by volume of Base to 1 part by volume of Hardener. <i>(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.)</i>
Pot Life (25-30C)	: 2 - 3 hours after mixing
Shelf Life	: Up to 24 months in tight sealed container <b>(Subjected to reinspection after exceeding shelf-life period)</b>

**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, compressed air spray generally lead to lower film thickness, so more applications may be required to obtain the recommended thickness per coat. For brush and roller recommended for small areas and touch-up only. Good quality brushes and mohair/ short nap rollers should be used with full strokes. Avoid rebrushing. Thin up to 10% - 15% by volume of Nippon Paint 9049 Thinner for proper flow-out. Additional coats

may be required to achieve minimum specified film thickness. 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.

Thinner	: Nippon Paint 9049 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 <sup>2</sup>
	: Tip size : 0.025” – 0.043”
	: Spray angle : 60° - 70°
	: Dilution : Up to 5% thinner by volume

### Recommended Coating System

#### Iron and Steel

Primer	: Nippon Paint 9049	: 1 Coat
Intermediate	: Nippon Paint 9049 (GR)	: 1 Coat
Top Coat	: Nippon Paint Polyurethane Recoatable Finish	: 1 Coat

### Surface Preparation

For optimum performance, abrasive blasting in accordance to **SSPC-SP10 or Sa 2½ ISO 8501-1:2007** is desirable. Average of surface profile 50 - 100 microns is acceptable. The surface to be coated must be clean and dry. Zinc salts can be removed by fresh water wash and scrubbing. Dry brushing should be sufficient to remove dirt. Where abrasive blasting is not possible, mechanical cleaning to **SSPC-SP11 or St 3 ISO 8501-1:2007** standard is acceptable.

### Cleaning

Cleaning Solvent : Nippon Paint 9049 Thinner. All equipment should be cleaned IMMEDIATELY with thinner after use. 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

### 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 adequate ventilation should be provided.

### Safety Precautions

- In the wet state, this product is highly inflammable. In case of fire, blanket flames with foam, carbon dioxide or dry chemicals.
- Keep away from sources of ignition. No smoking.
- Keep container tightly closed and keep out of reach from children.
- Do not breathe vapour/spray. Applying paint to large surface areas under closed environment should use air supplied breathing equipment. For small areas or short periods, a suitable cartridge mask should be worn.
 

Inhalation	: Remove to fresh air, loosen collar and keep patient rested.
Ingestion	: In case of accidental ingestion. DO NOT INDUCE VOMITING. Seek immediate medical attention.
- Avoid contact with skin and eyes. Wear suitable protective coating such as overalls, goggles, dust masks and gloves. Use a barrier cream.
 

Eyes	: In the event of accidental splashes, flush eyes with water immediately and obtain medical advice.
Skin	: Wash skin thoroughly with soap and water or approved industrial cleaner. DO NOT USE solvent or thinners.
- Care must be taken when transporting paint. Keep container in a secure upright position.
- Do not empty into drains or watercourses. Dispose of any paint waste in accordance with the appropriate Environmental Quality Regulations.

Note : A Chemical Safety Data Sheet (CSDS) is available upon request.

**Note**

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

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

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.