



**NIPPON  
PAINT**

**Protective  
Coatings**



## Water-based Protective Coatings

- 🌿 Zinky-41 WB Epoxy Zinc Rich Primer
- 🌿 Hi-Dro 63-01 Universal Epoxy
- 🌿 Hi-Dro 63-02 Epoxy MIO
- 🌿 Hi-Dro 65-01 Polyurethane Top Coat

# Technology for Ecology





## Solvent-based coatings threaten environmental and human health

Due to their high levels of volatile organic compounds (VOCs), conventional solvent-based protective coatings can harm the environment. During the curing process, VOCs are released into the air and react with other chemicals to form air pollutants that contribute to global warming, such as tropospheric ozone. They can also contribute to acid rain.

In addition, VOCs in solvent-based coatings pose serious threats to human health. Many VOCs are suspected or proven carcinogens, and have been linked to eye, nose and throat irritation; headaches, dizziness and nausea; and damage to the liver, kidneys and central nervous system.

## Water-based coatings that protect structures and the environment

As water-based coatings, Zinky-41 WB Epoxy Zinc Rich Primer, Hi-Dro 63-01 Universal Epoxy, Hi-Dro 63-02 Epoxy MIO and Hi-Dro 65-01 Polyurethane Top Coat use fewer non-renewable fossil resources in their manufacturing process, and emit considerably fewer VOCs than their solvent-based counterparts.

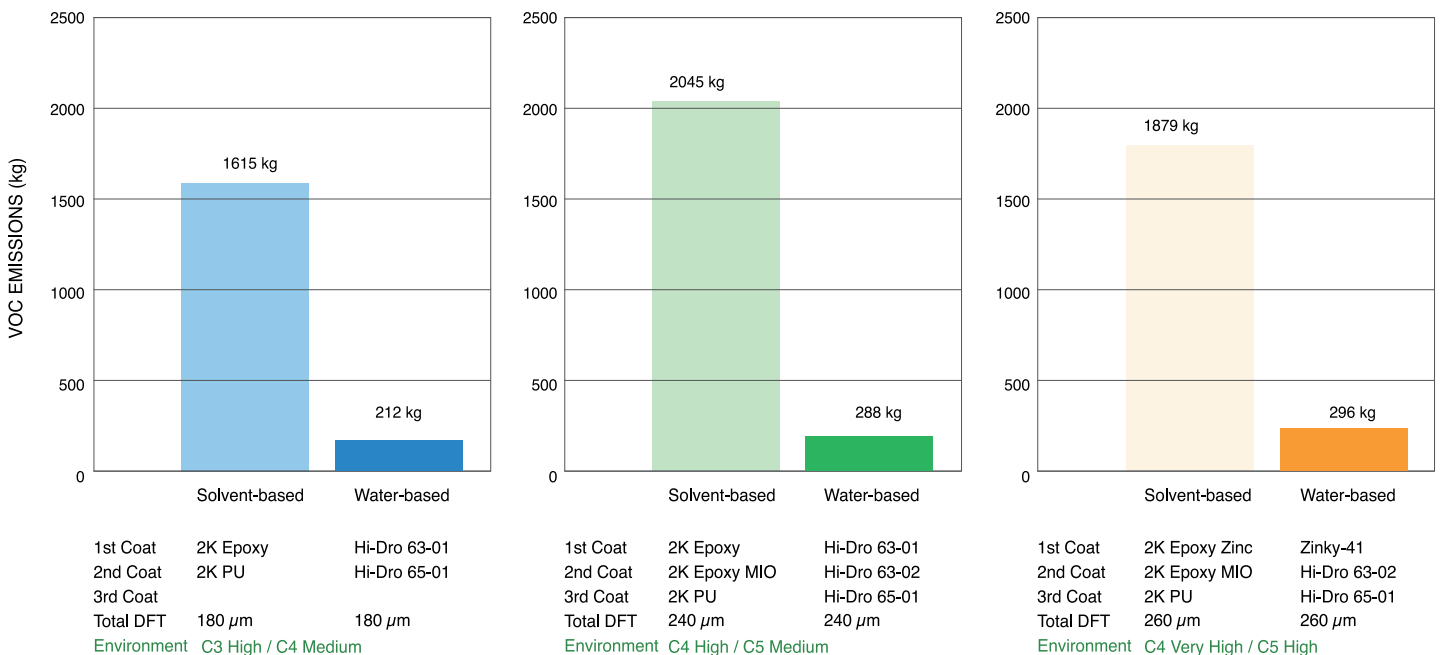


**Low VOC of  
≤ 75 grams  
per litre**

All Nippon Paint water-based protective coating products are Green Label-certified.

## VOC Emissions: Solvent-based vs Water-based Coating Systems

The charts below show the significant difference in the VOC emissions between solvent-based coating system and water-based coating system for a 10,000 m<sup>2</sup> project. In accordance with ISO 12944-2018, the water-based coating systems can meet C3 to C5 environments respectively with the same total dry film thickness (DFT) as solvent-based coating systems.





## As good as solvent-based coatings, only better for the world

Suitable for applications across a wide range of industries from manufacturing to oil and gas, Nippon Paint water-based protective coatings perform on a par with conventional solvent-based coatings. They are ideal for buildings and non-immersive structures exposed to the elements.

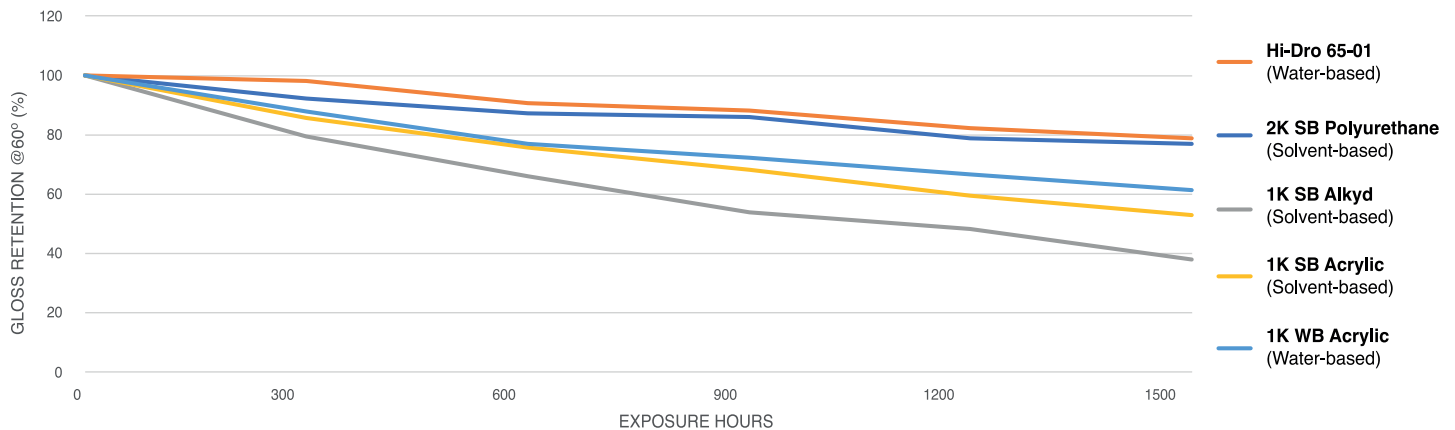
The excellent anti-corrosion properties and weather resistance of Nippon Paint water-based protective coatings extend the service life of structures and assets. The nett savings are considerable – for building owners and managers, and the environment.

### ANTI-CORROSION PERFORMANCE (PRIMER)

	Solvent-based 2K Epoxy Primer	Water-based Hi-Dro 63-01 Universal Epoxy	Solvent-based 2K Epoxy Zinc Primer	Water-based Zinky-41 WB Epoxy Zinc Rich Primer
Salt Spray Test (ISO 9227)	720 hours	720 hours	1500 hours	1500 hours
Water Condensation (ISO 6270-1)	480 hours	480 hours	720 hours	720 hours

### WEATHERING PERFORMANCE (TOP COAT)

QUV WEATHERING – UVA-340 (ISO 16474-3)



### DURABILITY PERFORMANCE

DURABILITY

Corrosivity Category (ISO 12944-2)	Low < 7 years	Medium 7-15 years	High 15-25 years	Very High > 25 years
C2				Water-based
C3			Water-based	Solvent-based
C4		Water-based	Solvent-based	Solvent-based
C5	Water-based	Solvent-based	Solvent-based	Solvent-based

System 1	
Hi-Dro 63-01 Universal Epoxy	120 μm
Hi-Dro 65-01 PU Top Coat	60 μm
<b>Total DFT</b>	<b>180 μm</b>

System 2	
Hi-Dro 63-01 Universal Epoxy	80 μm
Hi-Dro 63-02 Epoxy MIO	100 μm
Hi-Dro 65-01 PU Top Coat	60 μm
<b>Total DFT</b>	<b>240 μm</b>

System 3	
Zinky-41 WB Epoxy Zinc Rich Primer	75 μm
Hi-Dro 63-02 Epoxy MIO	125 μm
Hi-Dro 65-01 PU Top Coat	60 μm
<b>Total DFT</b>	<b>260 μm</b>

Coating Systems follow ISO 12944-2018 compliant system.

## TECHNICAL DATA

### Zinky-41 WB Epoxy Zinc Rich Primer

#### PRODUCT DESCRIPTION

Zinky-41 WB Epoxy Zinc Rich Primer is a three-pack, low-VOC, fast-drying water-based zinc-rich epoxy primer. It provides excellent corrosion resistance and weathering resistance.

#### INTENDED USE

It is designed for use as a primer to provide long-lasting protection on steel surfaces on bridges, in petrochemical, power generation, offshore and hydro facilities, and on port machinery in corrosive environments.

### Hi-Dro 63-01 Universal Epoxy

#### PRODUCT DESCRIPTION

Hi-Dro 63-01 Universal Epoxy is a two-pack, high performance, self-priming water-based epoxy coating. It has excellent adhesion and good corrosion resistance for use as a direct-to-metal primer or as an intermediate coat. Suitable for properly prepared carbon steel, aluminium and concrete.

#### INTENDED USE

It is designed for both new construction and general maintenance use in moderate industrial environments for the corrosion protection of equipment and other steel surfaces. Can be used as primer, mid coat, finish coat or as a single coat in atmospheric environments. Recommended for commercial infrastructure, refineries, power plants, warehouses and general structural steels.

### Hi-Dro 63-02 Epoxy MIO

#### PRODUCT DESCRIPTION

Hi-Dro 63-02 Epoxy MIO is a two-pack, water-based epoxy intermediate coating pigmented with micaceous iron oxide. It provides a high-build impervious barrier coating that gives excellent adhesion and anti-corrosive properties.

#### INTENDED USE

It is designed as an intermediate coat for use in water-based systems for non-immersed structural steels. Recommended for commercial infrastructure, refineries, power plants, warehouses and general structural steels.

### Hi-Dro 65-01 Polyurethane Top Coat

#### PRODUCT DESCRIPTION

Hi-Dro 65-01 Polyurethane Top Coat is a two-pack, water-based acrylic polyurethane finish coat, providing excellent colour and gloss retention. Selected colours contain solar-reflective pigments that can reduce the surface temperature of the coated substrate or structure, thus reducing the surrounding air temperature.

#### INTENDED USE

It is designed for use in both new construction and as an industrial maintenance finish that can be used in a wide range of environments including offshore structures, refineries, power plants, bridges, transportation vehicles and commercial infrastructure.

System 1	
Hi-Dro 63-01 Universal Epoxy	120 $\mu\text{m}$
Hi-Dro 65-01 PU Top Coat	60 $\mu\text{m}$
<b>Total DFT</b>	<b>180 <math>\mu\text{m}</math></b>

System 2	
Hi-Dro 63-01 Universal Epoxy	80 $\mu\text{m}$
Hi-Dro 63-02 Epoxy MIO	100 $\mu\text{m}$
Hi-Dro 65-01 PU Top Coat	60 $\mu\text{m}$
<b>Total DFT</b>	<b>240 <math>\mu\text{m}</math></b>

System 3	
Zinky-41 WB Epoxy Zinc Rich Primer	75 $\mu\text{m}$
Hi-Dro 63-02 Epoxy MIO	125 $\mu\text{m}$
Hi-Dro 65-01 PU Top Coat	60 $\mu\text{m}$
<b>Total DFT</b>	<b>260 <math>\mu\text{m}</math></b>

Coating Systems follow ISO 12944-2018 compliant system.

#### DISCLAIMER

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