

NIPPOSEAL FLEX 200 (formerly known as Nippon LM ACR)

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DESCRIPTION

NippoSEAL FLEX 200 is an elastomeric, breathable, green label certified, acrylic copolymer liquid applied waterproofing membrane. It is air cured to form a seamless, UV-durable, protective, waterproof, and decorative membrane. It is resistant to sun, rain, wind, or frost. Its micro-structure keeps water out but allows water vapour to escape through it.

USES

NippoSEAL FLEX 200 is a basic waterproofing and weather proofing membrane for old and new construction. It is suitable for above ground, interior and exterior waterproofing applications such as:

- RC roof, car porch roof, open roof terrace
- Balconies, A/C ledge, Overhangs, and etc
- RC Walls
- Fiber cement board
- Asphalt/Bitumen
- Metal surfaces such as iron, steel, galvanized with the recommended primer to promote adhesion

ADVANTAGES

- Single component and ready to use
- Easily applied
- Flexible with stationary crack bridging capability
- Barrier against salts and atmospheric gases
- High build
- Versatile and multi-purpose
- U.V stable with long service life and durable
- Green Label certified

Product Type	Product	Pack Size	Standard Color	Finishing	Substrate
Liquid Applied Waterproofing Membrane	NippoSEAL FLEX 200	20kg / pail	White, Window Grey	Matt	Concrete

Application Data

Application temperature	: 0°C to 45°C
Service temperature	: -5°C to 80°C
Theoretical coverage*	: 0.20 - 0.3kg/m ² /coat (for vertical surfaces) : 0.60 - 0.70kg/m ² /coat (for flat horizontal surfaces) (Note: The actual coverage depends on the type of substrate, substrate surface porosity, substrate texture, or whether a primer is used)
Special Notes	: Limit to foot traffic (i.e., periodic maintenance)

Typical Technical Data

Recoating time	: Minimum 2-3 hours (Subject to temperature and humidity)
Specific Gravity	: 1.32
Volume Solid,	: ~ 55
Tensile Strength at Break, N/mm ² (ASTM D412)	: ~ 2.5
Elongation at Break, % (ASTM D412)	: ~ 700
Adhesion to Concrete, N/mm ² (ASTM D4541)	: > 1.5
Green Label Compliance	: Compliance
Shelf Life	: 12 months

*All values given are subject to 5-10% tolerance

Application Method

Substrate Preparation

Concrete and Masonry Substrate

The substrate must be thoroughly clean and dry, free from dust, algae, mildew, fungal, grease and oil. All the contaminants, previous waterproofing and impurity must be removed till the bare substrate. Any cracks, honeycombs, or water leakage areas should be repaired by **Nippon Paint Repair System** (for more detail, please refer to Nippon Paint Technical Department) before the waterproofing work proceeds. The substrate must be sound and dry with no rising dampness. The concrete surface should be flat and free from holes and undulations. Any holes and undulations should resurface with **Nippon Paint Scratch Coat System**. The surface should be clean smooth and cast to fall to allow water run-off.

Mixing

Stir the product thoroughly using a mechanical mixer at a slow speed drill at 300-400 rpm fitted with a suitable paddle for 2-3 minutes.

Application

Primer

For concrete porous surface, prime before further coatings to act as an adhesion promoter. Prepare the priming coat by diluting **NippoSEAL FLEX 200** with clean water at a ratio of 30 - 50% water dilution (depending on the surface porosity). Apply the primer at the rate of 0.10 – 0.20kg/m²/coat and allow the primer to dry about 30-60 minutes prior to the neat subsequent coat application.

For metal surface, prime with Nippon Paint Hydro Wood & Metal Primer (with no dilution) to enhance adhesion and promote the anti-corrosion function. Apply the primer at the rate of ~ 0.1 litre/m².

Waterproofing

Do not add water to the product. Apply the first neat coat of **NippoSEAL FLEX 200** at a rate of 0.6kg/m²/coat with a long-haired roller, soft-bristled brush or roller. For a reinforcement waterproofing system, carefully lay **Nippon Paint LM MAT**, a chopped strand fibreglass mesh onto the surface while it is still fresh. Press it down firmly to make sure it is perfectly wetted. Apply the second coat of **NippoSEAL FLEX 200** at the rate of 0.6kg/m² and ensure no air is trapped beneath. The second coat shall be applied at right angles to the first coat. After it has completely dry (approximately 2-4 hours, subject to the environment), apply the subsequent third coat of **NippoSEAL FLEX 200** at a rate of 0.6kg/m²/coat. Protect **NippoSEAL FLEX 200** from rain until it has completely dry.

For vertical wall application, apply a minimum of two coats (excluding primer) of **NippoSEAL FLEX 200** at a rate of 0.20 – 0.30kg/m²/coat with a long-haired roller, soft bristled brush or roller.

Detailing Treatment

All detailing should be applied before proceeding with the large field area. The right angle and corner should be pre-treated with a 25mm **NippoBOND** modified cement sand angle fillet. Further, treat the expansion joint with debonding tape before any reinforcement application. All upstands, penetrations and joints shall be pre-treated with a reinforced waterproofing system, where **Nippon Paint LM MAT** shall be applied by using wet on wet method, overlapping at a minimum 75mm.

Recommended Waterproofing System

Concrete Substrate with Reinforcement

Primer	: NippoSEAL FLEX 200 (with 30 - 50% water dilution)	0.10 – 0.20kg/m ² /coat
Waterproofing First Coat	: NippoSEAL FLEX 200	0.6 kg/m ² /coat
Fibre Reinforcement	: NIPPON PAINT LM MAT	1 layer
Waterproofing Second Coat	: NippoSEAL FLEX 200	0.6 kg/m ² /coat
Waterproofing Third Coat	: NippoSEAL FLEX 200	0.6 kg/m ² /coat

Metal Roof Substrate

Primer	: Nippon Paint Hydro Wood & Metal Primer	~ 0.1 litre/m ²
1 st neat coat Waterproofing	: NippoSEAL FLEX 200	0.6 kg/m ² /coat
2 nd neat coat Waterproofing	: NippoSEAL FLEX 200	0.6 kg/m ² /coat

Note: NIPPON PAINT HYDRO WOOD AND METAL PRIMER is recommended to enhance adhesion and promote the anti-corrosion function.

Vertical Wall Substrate

Primer	: NippoSEAL FLEX 200 (with 5 - 10% water dilution)	0.10 – 0.20kg/m ² /coat
1 st neat coat Waterproofing	: NippoSEAL FLEX 200	0.20 – 0.30kg/m ² /coat
2 nd neat coat Waterproofing	: NippoSEAL FLEX 200	0.20 – 0.30kg/m ² /coat
Decorative Finishing Coat	: NIPPON PAINT WEATHERBOND	2 coats

Note

: **NippoSEAL FLEX 200** elastomeric waterproofing is used to cover hairline cracks.

: **NIPPON PAINT WEATHERBOND** is highly recommended as the decorative top finishing coat to provide better durability and dirt pick-up resistance.

Environmental Conditions During Application

Apply temperature: 0-45°C. Do not apply when the surface to be coated is less than 3°C above the dew point.
The humidity for application is 30-80%.

Storage and Transportation

This product should be stored in its original container in a shaded or cool and adequate ventilation warehouse. The storage temperature should be 15-35°C. This product should be away exposure from rain, UV, sunlight, source of flame and heat. When transporting, care must be taken. Failure to comply with the recommended storage may result in considerable premature deterioration of the product and shorten its shelf life. While reopening for reuse, if the skin has formed, remove the skin and stir well before reuse.

Cleaning

Clean up equipment or tools with water immediately after use. Cured material can be removed mechanically.

Safety Precautions

- Keep it tightly closed in the original packed container.
- Away from direct exposure to sunlight.
- Always use protective hand gloves, goggles and dust mask when handling or applying the product.
- Dispose off any waste in accordance with the appropriate Environment Quality Regulations.

Note

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

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

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. Variables like porosity of substrate, application method, dilution ratio, dry film thickness, opacity and so on will affect the loss factor and can vary from 30% - 50% or even more. 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.