

NIPPON FLEX 100
Updated July'17

Description:

Nippon FLEX 100 is a single component, high build, thixotropic, water base liquid applied high performance copolymers modified bitumen. It exhibits better curing, elongation and cold flexibility with high recovery property.

Uses:

Nippon FLEX 100 is suitable for waterproofing applications such as:

- Structural walls, foundation walls, retaining walls
- Foundation slabs, tie beams, footings, copings, ramps, lift pits and etc
- RC flat roof (conceal and inverted roof)
- Planter box
- As a damp proof membrane for sandwich construction

Advantages:

- Highly elastomeric with excellent recovery and crack bridging
- Single component and ready-to use
- High build and thixotropic (prevent sagging on vertical wall)
- Green label certified, zero VOC, non-flammable and safe to use
- Excellent resistant to chlorides, sulphates, mild acids, alkalis, oil, salts, bacteria and soil chemicals
- Excellent adhesion to green and damp concrete
- Seamless and anti-water migration, easy for localize repair
- Easy application by brush, roller, trowel and airless spray

Product Type	Product Grade	Packsize	Finishing	Substrate
Liquid Apply Waterproofing Membrane	Nippon FLEX 100	20kg	Black color, matt finish	Concrete

Application Data

Drying Time (25-30C)	: Touch Dry 4-6 hours, Hard Dry ≤ 24 hours (Drying time is measured at condition 25°C, 60% humidity for reference. Actual Drying time depends on actual site and substrate temperature, humidity, film thickness and substrate)
Full Cure (35°C)	: 7 days (for water ponding test)
Interval Recoat Time	: Minimum 6-15 hours, depending on coat thickness, temperature, wind conditions, humidity and substrate

Typical Technical Data

Form	: Smooth and thixotropic dark back liquid paste
Color	: Black when dry
Solids	: ≥ 50%
pH	: >8.0
Tensile Strength	: > 1.0MPa
Elongation at Break	: > 900%
Water Resistance	: No blistering or re-emulsification
Adhesion Strength	: ≥ 1.0 MPa (Concrete failure)
Soil Resistance	: Pass
Shelf Life	: Up to 12 months in original tight sealed container stored at dry cool place

Application Method
Substrate Preparation
Concrete Substrate

The substrate must be thoroughly clean and dry, free from dust, grease and oil. All the contaminants, previous waterproofing and impurity must be removed till bare substrate. Any cracks, honey combs, water leakage area should be repaired by Nippon Repair System (for more detail, please refer to Nippon Technical Department) before the waterproofing work proceed. The substrate must be sound. The concrete surface should be flat and free from holes and undulations. Any holes and undulations should be resurfacing with Nippon Scratch Coat System. The surface should have a sand paper profile roughness and should have a slope of at least 1% to allow water run-off.

Mixing

Mix for at least 2-3 minutes to achieve a homogeneous mixture, with a mechanical drill fitted with a suitable paddle prior to application. Application should commence immediately after mixing.

Priming

Primer is not normally required on good quality concrete substrate. To porous and absorbance concrete, plaster, screed, cement board, block work and etc, apply priming coat consisting of 4 parts of water to 1 part of **Nippon FLEX 100** to the prepared surface and allow it to dry thoroughly prior to application of neat coat of **Nippon FLEX 100**.

Application

This product is designed for trowel, short hair pile roller, brush and air-less spray application. Allow first neat coat of **Nippon FLEX 100** to dry thoroughly, prior to second neat coat application. The second neat coat should be applied in the opposite direction (right angles) to the first coat as this will allow the waterproofing membrane to be distributed more uniformly. Allow the final coat to cure for 24-48 hours before applying protection screed or board. Allow full cure for 7 days before the waterproofing system to actual service conditions.

Crack-Line Treatment

All shrinkage crack and non-structural cracks should be pre-treated with a 1.5mm thick coating of **Nippon FLEX 100** reinforced with a layer of **Nippon LM MAT**, extending at least 50mm on both sides of crack.

Right Angle and Corner Treatment

Right angle and corner should have 25mm Nippon Latex modified cement sand angle fillet, apply **Nippon FLEX 100** reinforced with a layer of **Nippon LM MAT** at 1.5mm thick, overlapping 100mm.

Moisture Treatment

When moisture is trapped in the concrete to be waterproofed, an approved venting system consisting of a perforated base felt together with vents shall be used in accordance with the vent manufacturer’s application procedures and recommendations.

Recommended Waterproofing System

Concrete Substrate (conceal roof)		
Waterproofing First Coat	: Nippon FLEX 100	1.0-1.1kg/coat
Waterproofing Second Coat	: Nippon FLEX 100	1.0-1.1kg/coat
Concrete Substrate (conceal roof) with reinforcement		
Waterproofing First Coat	: Nippon FLEX 100	1.0-1.1kg/coat
Fiber Reinforcement	: Nippon LM MAT	1 layer at 75g/m ²
Waterproofing Second Coat	: Nippon FLEX 100	1.0-1.1kg/coat
Waterproofing Third Coat	: Nippon FLEX 100	0.6-0.7kg/coat

Environmental Conditions During Application

1. Apply temperature: 15-35°C. Do not apply when the surface to be coated is less than 3°C above the dew point.
2. The humidity for application is 30-80%
3. During application of the paint, naked flame, welding operations and smoking should not be allowed and adequate ventilation should be provided.

Storage and Transportation

This product should be stored at shaded or cool and adequate ventilation warehouse. The storage temperature should be 15-25°C. This product should be away exposure from rain, sunlight, source of flame and heat. When transporting, care must

be taken. It is always keep container in a secure upright position. Failure to comply with the recommended storage may result in considerable premature deterioration of the product. Stir the product thoroughly prior to usage. All PU based products are greatly susceptible to attack by moisture and humidity, if not stored properly. It is advised to finish use all the material once opened to avoid skinning.

Cleaning

Clean up equipment or tools with clean water immediately after use. Once hardened, it can be removed with white spirit, xylene or similar solvent. Allow the waste to cure, seal it into a suitable container and bury in landfill accordance to local authorities for disposing.

Safety Precautions

- Keep container tightly closed and keep out of reach children or away from food and drink.
- Ensure good ventilation during application and drying.
- When applying, it is advisable to wear eye protection.
- In case of contact with eye, rinse with plenty of water immediately and seek medical advice.
- Remove splashes from skin by using soap or water.
- Dispose off any waste in accordance with the appropriate Environment Quality Regulations.

Note

* Theoretical Coverage is based on a mathematical formula:

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

and does not consider LOSS FACTORS.

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.

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