NIPPOSEAL FLEX 100 *(formerly known as Nippon LM PUBIT WB)*

Updated Aug'25

DESCRIPTION

NippoSEAL FLEX 100 is a single component, high build, thixotropic, water base liquid applied emulsified bitumen modified with copolymer of polyurethane, MMA and Neoprene. It exhibits better curing, elongation and cold flexibility with high recovery property.

USES

NippoSEAL 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 waterproofing 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
- Anti-root properties
- Green Label certified

Product Type	Product	Pack Size	Finishing	Substrate
Liquid Applied Waterproofing Membrane	**NippoSEAL FLEX 100**	20kg / pail	Black color, low sheen	Concrete

Application Data

Drying Time (25-30°C)	: 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)
Curing	: Allow curing approx. 2-5 days depending on local climate condition.
Interval Recoat Time	: Minimum 4-15 hours, depending on coat thickness, temperature, wind conditions, humidity, and substrate.
Theoretical Coverage* Roller Application	: 1 coat at 0.75kg/m2/coat. Always apply in two coats, in right angles to each coat, allow the first coat to dry out fully. For critical area waterproofing, and usually with one layer of **NIPPON PAINT LM MAT** reinforcement. (Theoretical rate only applies to a smooth non-porous substrate. Actual coverage depends on substrate condition, application method, application condition, etc.)

Typical Technical Data

Form	: Smooth and thixotropic dark back liquid paste
Color	: Black when dry
Solids, %	: 70 ± 3
Density	: 1.35 ± 0.05

Viscosity, KU	: 110-130
pH	: 8.0-10.0
Tensile Strength, MPa	: ≥ 1.0
Elongation at Break, %	: ≥ 1000
Softening Point, °C	: >120
Water Resistance	: No re-emulsification
Adhesion Strength, MPa	: ≥ 1.0
Water Vapor Permeability at 24 hours, g/m^2	: 0.15
Soil Resistance	: Pass
Cold Flexibility, °C	: -5
Heat Resistance, 2 hours at 141°C	: No flowing, dripping or sagging
Shelf Life	: Up to 12 months in original tight sealed container stored at dry cool place
Reaction to fire	: Class E (non-flammable)
Anti-Root	: Pass
Compliances	: EN15841, PD CEN/TS 14416:2014, SIRIM and Green Label Certificate

Application Method

Substrate Preparation

Concrete 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 bare substrate. Any cracks, honey combs, water leakage area should be repaired by **Nippon Paint Repair System** (for more detail, please refer to Nippon Paint Technical Department) before the waterproofing work proceed. The substrate must be sound and dry with no rising damp. 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

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.

Primer

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 **NippoSEAL FLEX 100** to the prepared surface and allow it to dry thoroughly prior to application of neat coat of **NippoSEAL FLEX 100**.

Application

This product is designed for trowel, short hair pile roller, brush and air-less spray application. Apply the first neat coat of **NippoSEAL FLEX 100** at a rate of 0.75kg/m2/coat. Allow it 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 48 hours before applying protection screed or board.

Crack-Line Treatment

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

Right Angle and Corner Treatment

Right angle and corner should have 25mm **NippoBOND** modified cement sand angle fillet, apply **NippoSEAL FLEX 100** reinforced with a layer of **NIPPON PAINT LM MAT**, overlapping at minimum 75mm.

Joint Treatment

Fill the concrete joint with suitable backing material and **NippoJOINT POLYSIL** at appropriate width to depth ratio. Apply 50 mm width strip of flexible self-adhesive tape at expansion joint as de-bonding tape, follow by applying 3 coats of **NippoSEAL FLEX 100** reinforced with a layer of **NIPPON PAINT LM MAT.**

Recommended Waterproofing System

Concrete Substrate (Conceal Roof)

Waterproofing First Coat	**: NippoSEAL FLEX 100**	0.75 kg/$m^{2/}$coat
Waterproofing Second Coat	**: NippoSEAL FLEX 100**	0.75 kg/$m^{2/}$coat

Concrete Substrate (Conceal Roof) with Reinforcement

Waterproofing First Coat	**: NippoSEAL FLEX 100**	0.75 kg/$m^{2/}$coat
Fibre Reinforcement	: Nippon Paint LM MAT	1 layer
Waterproofing Second Coat	**: NippoSEAL FLEX 100**	0.75 kg/$m^{2/}$coat

Environmental Conditions During Application

- Apply temperature: 15-35°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%.
- During application of the paint, naked flame, welding operations and smoking should not be allowed and adequate ventilation should be provided.

Cleaning

Clean up equipment or tools with clean water immediately after use. Once hardened, it can be removed with hydrocarbon solvent (Nippon General Purpose Thinner or Nippon OP-1 Thinner). Allow the waste to cure, seal it into a suitable container and bury in landfill accordance to local authorities for disposing.

Certificates

1) Green Label certified by Singapore Environment Council (SEC)

Tests

1) PD CEN/TS 14416 :2014 on Resistance to roots (GSL Laboratory LLC Taiwan)
2) ASTM D 412 : 2013 – Tensile & Elongation on Vulcanized Rubber and Thermoplastic Elastomers by SIRIM
3) Green Label on SGLS Category 032 (SETSCO)

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 and does not consider Loss Factor.

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

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 theloss 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.