NIPPOCEM FLEX *(formerly known as Nippon CM Flexible)*

Updated Nov'22

DESCRIPTION

NippoCEM FLEX is two component, flexible, green label and SPAN certified, acrylic polymer modified cementitious waterproofing coatings. It also acts as anti-carbonation and anti-chloride ion diffusion protection coatings to structure

Uses:

NippoCEM FLEX is suitable for below ground tanking waterproofing and interior and exterior wet areas waterproofing applications such as:

- Balcony, yards, sauna and other wet areas
- Swimming pools, infinity pools and overflow channels
- Ponds and fountains
- Portable water tank, water reservoirs
- Lift pits, scupper drains, sumps pits
- Pile head and foundations
- Basement walls

ADVANTAGES

- Excellent waterproofing performance
- Breathable
- Good flexibility for crack bridging
- Good adhesion to wet surface and green concrete
- Non-toxic, suitable for portable water
- Excellent resistance to soil chemicals, chlorides, sulphates, dilute acids and alkalis.
- Anti-carbonation and anti-chloride ion
- Green Label and SPAN certified.

Product Type	Product	Pack Size	Finishing	Substrate
Cementitious Waterproofing	**NippoCEM FLEX**	Part A: 10kg/pail Part B: 25kg/bag	Greyish	Concrete

Application Data

Application temperature, °C	: 5 to 45
Service temperature, °C	: -5 to 80
*Theoretical coverage, kg/m²/coat	: 1.0
Special Notes	: Pre-saturate the substrate with clean water or appropriate bonding agent

Typical Technical Data

Pot Life at 30°C, minutes	: 45
Specific Gravity	: 1.60-1.80
Drying Time, hours	: 2-3
Toxicity (MS 1583/BS 6920)	: Non-Toxic
Foot Trafficable, hours	: > 6
Tensile Strength at Break, N/mm² (ASTM D412)	: > 1.5
Elongation at Break, % (ASTM D412)	: > 100
Adhesion to Concrete, N/mm² (ASTM D4541)	: > 1.5
Crack Bridging, mm (ASTM C836)	: 1
Positive water pressure resistance, bar (DIN 1048)	: 5
Water absorption, %	: < 1
Portable water compliance (BS 6920/MS 1583-1)	: Compliance
Shelf Life	: 12 months

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

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

Pour the **NippoCEM FLEX (Part A)** - *the liquid part* into a suitable sized container and slowly add the **NippoCEM FLEX (Part B)** - *the powder part* to the liquid, and mix using a slow speed drill at 300-400 rpm fitted with suitable paddle until a lump free creamy consistency is obtained. Do not mix more material than that can be used within 20 minutes. Do not add any additional water to the mixture.

Application

For wet areas applications, pre-wet the substrate surface with clean water. Apply the first coat at a rate of 1kg/m^2/coat to completely cover the holes, cracks and etc with a soft bristled brush or roller. Once the first coat is touch dry, apply the second coat at a rate of 1kg/m^2/coat. The second coat shall be applied at right angles to the first coat. For water retaining structure, apply an additional coat at a rate of 1kg/m^2/coat.

For a reinforcement waterproofing system, apply a layer of **NIPPON PAINT CM MAT**, an alkali resistant mat, onto the first coat of **NippoCEM FLEX** while still wet. Apply second and third coat of **NippoCEM FLEX** at a rate of 1kg/m^2/coat. Each subsequent coat shall be applied at right angles to the previous coat.

Right Angle and Corner Treatment

Right angle and corner should have 25mm **NippoBOND** modified cement sand angle fillet. For angle treatment with reinforcement, apply a layer of **NIPPON PAINT CM MAT**, an alkali resistant mat, onto the first coat of **NippoCEM FLEX** while still wet. Apply second and third coat of **NippoCEM FLEX** at a rate of 1kg/m^2/coat.

Protection

The membrane shall be protected from damaged due to ongoing construction activities or backfilling aggregates by either 50mm cement sand protection screed.

Recommended Waterproofing System

WET AREAS

Concrete Substrate (Standard)

Waterproofing First Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat
Waterproofing Second Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat

WATER RETAINING STRUCTURE

Concrete Substrate (Standard)

Waterproofing First Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat
Waterproofing Second Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat
Waterproofing Third Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat

Concrete Substrate (Reinforcement)

Waterproofing First Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat
Reinforcement	: NIPPON PAINT CM MAT	1 layer
Waterproofing Second Coat	**: NippoCEM FLEX**	1.0 kg/m^2/coat
Waterproofing Third Coat	**: NippoCEM FLEX**	1.0 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 30°C above the dew point.
- The humidity for application is 30-80%.

Storage and Transportation

This product should be stored in 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.

Cleaning

Clean up equipment or tools with water immediately after use.

Safety Precautions

- Keep part A and part B tightly closed in original packed bag and container.
- Away from direct expose to sunlight.
- Always use protective hand gloves, goggle 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.

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

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.