

NIPPOCEM FLEX 1K 902
Updated Feb'26
DESCRIPTION

NippoCEM FLEX 1K 902 is one component, flexible, fiber-reinforcement, polymer modified cementitious waterproofing coatings. It is designed for below ground tanking waterproofing, interior and exterior wet areas waterproofing applications. It also acts as anti-carbonation and anti-chloride ion diffusion protection coatings to structure.

Uses:

NippoCEM FLEX 1K 902 is suitable for below ground tanking waterproofing and interior and exterior wet areas waterproofing applications such as:

- Balcony, yards, toilet, kitchen and other wet areas
- Swimming pools, overflow channels, portable water tank.
- General waterproofing for wall and floor
- Basement and retaining wall

ADVANTAGES

- Excellent waterproofing performance
- Breathable
- Good flexibility for crack bridging
- Good adhesion to damp 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

Product Type	Product	Pack Size	Finishing	Substrate
Cementitious Waterproofing	NippoCEM FLEX 1K 902	25kg	Greyish	Concrete

Application Data

Composition	: Cement, VAE polymer, aggregate and additive
Color	: Grey
Density	: Approximately 1.50 kg/L
Mixing Ratio	: ~0.30L of water / 1kg NippoCem FLEX 1K 902
Pot-life	: ~ 30 min
Theoretical coverage, kg/m ² /coat	: 1.0 kg/m ² /mm
Application method	: Brush, roller and trowel
Interval / Recoat Time	: 6-8 hours (depends on surrounding temperature and humidity)
Shelf life	: 12 months
Storage Condition	: Store in original tight sealed packaging. Store in a dry condition, without contact with rain water or direct sunlight.
Special Notes	: Pre-saturate the substrate with clean water

Typical Technical Data

Tensile Strength at Break, N/mm ² (ASTM D412)	: > 1.60 N/mm ²
Elongation at Break, % (ASTM D412)	: > 35%
Adhesion to Concrete, N/mm ² (ASTM D4541)	: > 1.0 N/mm ²

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

Application Method
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 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 the surface should be clean smooth and cast to fall to allow water run-off.

Mixing

Pour the required quantity of water into a suitable sized container, slowly add-in the **NippoCEM FLEX 1K 902**. Mix the mixture by using a slow speed drill at 300-400 rpm fitted with suitable paddle until a lump free creamy consistency is obtained. Do not add any additional water to the mixture.

Application

Pre-saturate the substrate with clean water. Apply the first coat at a rate of 1kg/m²/coat to the pre-wetted surface. Once the first coat is dry, apply the second coat at a rate of 1kg/m²/coat. The second coat shall be applied at right angles to the first coat. For critical area, apply an additional coat at a rate of 1kg/m²/coat. Interval time of each coat should be 6-8 hours.

Protection

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

Cleaning

Clean up equipment or tools with water immediately after use.

Recommended Waterproofing System
General Waterproofing (Wet Area)

Waterproofing First Coat	: NippoCEM FLEX 1K 902	1.0 kg/m ² /coat
Waterproofing Second Coat	: NippoCEM FLEX 1K 902	1.0 kg/m ² /coat

Critical Area (Water Retaining, Swimming Pool, Ponds)

Waterproofing First Coat	: NippoCEM FLEX 1K 902	1.0 kg/m ² /coat
Waterproofing Second Coat	: NippoCEM FLEX 1K 902	1.0 kg/m ² /coat
Waterproofing Third Coat	: NippoCEM FLEX 1K 902	1.0 kg/m ² /coat

Environmental Condition & Precaution During Application

- Do not apply **NippoCem FLEX 1K 902** on substrates with stagnant water or water ponding.
- Do not add more water than recommended.
- Protect from rain for at least 24-48 hours after application.

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.

Certificates

- 1) SPAN Certified
- 2) Green Label Certified by The Singapore Environment Council (SEC)

Tests

- 1) ASTM D412 on Tensile & Elongation
- 2) MS 1583 : Part1 : 2003 on Suitability of product use in contact with water intended for human consumption (SIRIM QAS)
- 3) Green Label test under SGLS Category 032 (SETSCO)
- 4) ASTM D7234 on Pull Off Adhesion Strength
- 5) TCLP (Toxicity Characteristic Leaching Procedure)

Safety Precautions

- Keep the material in original tight sealed packed bag.
- 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.

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

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.