



INNOVATION | SUSTAINABILITY | EXCELLENCE

NIRMAAHAN

NGPL MicroEx MCR FL-80





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General purpose, Self curing, flowable, high early strength, non-shrink, cementitious micro-concrete repair solution specially designed for tie-rod filling and other pocket repair application and general structure repair application.

USES

- **NGPL MicroEx MCR FL-80** is used for repairs to damaged reinforced concrete elements as well as Tie-rod filling, Tie Strips, pocket filling and other general structure repair application.

ADVANTAGES

- * Good Final Setting time for effective load bearing surface.
- * Sealing & grouting of holes and voids
- * Can be pumped using Grout gun into restricted locations like tie rod holes.
- * Fluidity to allow for placement without vibration.
- * Pre-bagged to overcome site-batched variations.
- * Rapid strength gain to facilitate early reinstatement.
- * High ultimate strengths and low permeability of cured repair.
- * Contains no chloride admixture.
- * Ensures pile top integrity as part of a waterproofing system

PROPERTIES

The following results were obtained at a water: Powder ratio of 0.15 @ 300C.

Test	Typical result at 30 °C
Compressive strength (N/mm ²)	
3 Day	> 35Mpa
7 Days	> 60Mpa
28 Days	> 80Mpa
Tensile Strength	> 5N/mm ² @ 28 days
Flexural strength	>10 N/mm ² @ 28 days
Young's Modulus	25 kN/mm ²
Expansion characteristics	Unrestrained expansion of 1 to 4%. Pressure to restrain Plastic expansion - Approx. 0.004N/mm ²
Coefficient of thermal expansion	10 - 12 x 10 ⁻⁶ / °C.
Thermal conductivity	1.5 W/m °C
Fresh wet density	2050-2100 kg/m ³

Setting time : Initial – 80mins, Final- 350 mins.



SPECIFICATION CLAUSES

Performance specification

The fluid micro-concrete repair material shall be **NGPL MicroEx MCR FL-80**, a single component, self curing, cement based, micro-concrete to which only the site-addition of clean water (and approved graded coarse aggregates where specified) shall be permitted. The micro-concrete shall contain no metallic aggregates, or chlorides and shall be shrinkage compensated in the plastic state. The micro concrete in the flowable consistency should achieve a compressive strength of not less than 25N/mm² after 24 hours at 30 degree celcius. Most importantly, the self cured micro concrete shall have a coefficient of thermal expansion similar to that of the host concrete.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT The cement based substrate must be structurally sound, cement laitance free, clean and free from dirt, oil, grease or other contaminants and loose or friable particles. Tie holes plastic tube should be lightly abraded using hole cleaning steel brush. Remove any contaminants inside of tube by water under pressure. Dry the hole by air blower before application of **NGPL MicroEx MCR FL-80**

MIXING Pour clean, cold water in given quantity into the mixing container. Add powder while mixing continuously using a low speed electric mixer (max. 500 rpm) for a minimum of 3 minutes avoiding entrapping of air. By adding the powder slowly and in portions, the desired application consistency can be obtained. Leave material to stand for 5 – 10 minutes then remix the material for 15 seconds - the product is now ready for use. Do not add extra water or other ingredients after mixing.

APPLICATION METHOD / TOOLS

NGPL MicroEx MCR FL-80 should be applied into the tie hole using positive displacement pump (gun) with suitable extension tube. Initially, pump the first mix of material through the gun until mix is extruded as a one consistent colour outside of application area. Do not use this material. When inconsistent and continuous mix is achieved, inject the **NGPL MicroEx MCR FL-80** into the tie hole, starting from the bottom and slowly pull out the gun while extruding the material into the hole. Avoid entrapping air. For deep holes use extension tubing.

CLEANING OF EQUIPMENT Clean all tools and application equipment with clean water immediately after use. Hardened / cured material can only be mechanically removed.

Estimating

Packaging

NGPL MicroEx MCR FL -80 is supplied in 25 kg bags.

Yield

Approximately 0.15-0.18% water content per 25 kg bag. Actual yield per bag will depend on the consistency of **NGPL MicroEx MCR FL-80** and quantity of coarse aggregate added.

Storage

To be stored in unopened, original sealed and dry condition at a temperature range from +5°C to 40°C

Shelf life

NGPL MicroEx MCR FL-80 has a shelf life of 12 months if kept in a dry store in the original, unopened bags. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.



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Precautions

Health & Safety instructions

NGPL MicroEx MCR FL-80 contains cement powders which, during normal use, have no harmful effect on dry skin. However, when it is mixed, or becomes damp, alkali is released which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Suitable gloves, eye protection and dust masks shall be worn. The use of barrier creams is recommended. In case of contact with skin, it shall be washed with clean water. In case of contact with eyes, it shall be rinsed immediately with plenty of clean water and medical advice shall be sought. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced. It is non-flammable.



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