

VICAREP-R®

Edition 09024

Non shrink, Very fast setting, Polymer fiber reinforced, Cementitious Repair Mortar

Description

VICAREP-R is a one component, cementitious, very fast setting restoration/repair mortar based on a very special cement blend, fillers and additives to control the rheology and setting time. The material is pre-packaged ready for on-site use and when mixed with water develops a very rapid set and gain in early compressive strength. It is specifically designed for fast fixing and fast repair applications. The early strength gain will achieve up to 8MPa within 1 hour.

VICAREP-R has good chemical and mechanical resistance in addition to adhesive bond to concrete and other construction materials. When used as a very fast-setting, low slump repair mortar, it may be troweled, shaped, molded and shaved before taking a final set. **VICAREP-R** is an excellent patching solution for difficult vertical/overhead applications without using expensive and intricate forming techniques.

Advantages

- Non-shrink.
- High early strength with long term strength gain.
- Water resistant.
- Characteristics improvement over 10 years.
- Resists carbonation providing excellent protection for steel reinforcement.
- Low heat of hydration, no thermal cracking.
- Formulated for short and long term efficiency.
- Good adhesion.
- Continuous pores filling and sealing by Autogenous healing provided by the slow hydration of Dicalcium Silicate (C₂S).
- No free lime, all the hydration products are solids.

Uses

VICAREP-R is designed to minimize downtime. It can be used vertically, horizontally or overhead. Whether the application is interior or exterior, **VICAREP-R** is an excellent choice for fast repairs. Typical applications include but are not limited to, repairs to curbs and gutters, precast concrete elements, tie-rod holes, concrete pipes, columns, beams, runways, high traffic floors, industrial floors, filling of non-moving joints and cracks or any general-purpose repair.

Typical Mortar Properties at 20°C

Linear Shrinkage typical value at 28days according to BS EN 12617-4 (%): 0.026%

Linear Expansion typical value at 28days according to BS EN 12617-4 (%): 0.026%

Compressive Strength typical values (MPa) according to BS EN 196-1

Water to powder ratio = 0.12 by weight

| 1 hour | 2 hours | 3 hours | 24 hours | 7 days | 28 days | 56 days |
|--------|---------|---------|----------|--------|---------|---------|
| 8 | 12 | 25 | 40 | 50 | ≥ 60 | ≥ 65 |

Compressive strength is increasing thereafter due to the hydration of active dicalcium silicate.

Water permeability (According to BS EN 12390-8): Nil

Consistency: Plastic Mortar

Thickness of application: 5mm to 30mm, and can be extended by the addition of 4-8 mm aggregates at a w/rate of 2:1

Consistency life: 15 minutes

Initial setting time: ≈ 20 min. @ 22°C

Final setting time: ≈ 30 min. @ 22°C

Volume stability: Non-shrink

Fresh Density: 2.2 kg/liter

Package & Coverage

VICAREP-R is supplied in 25 Kg packs (other sizes maybe available upon request), after mixing with water; one Kg yields about 0.45 Liter of non-shrink mortar.

Allowance should be made for any possible wastage when estimating.

Application Instructions

Surface preparation

- A good application is only as good as the preparation.
- In order that maximum bond strength is achieved, all substrates should be sound, clean, and free from laitance, dust, loose particles, grease, oil or any other foreigner matter and all surfaces should be saturated with water with no running water (saturated surface dry).
- To insure optimum bonding, the mortar may be applied over a wet coat of **Vicabond** or a suitable bonding agent such as **SBR-40** Slurry may be used wet on wet application.
- The use of a bonding agent will never overcome the bad surface preparation.
- Cut or notch out the crack, joint, or void to a minimum dimension of 20mm depth and width.
- To ensure proper mechanical lock, the bottom of the newly notched opening should be wider than the top.
- Avoid feather edging.

Mixing

- For large scale jobs, In a suitable container add 2.50 – 3.5 liters of potable water and start mixing with a slow speed drill (350 - 450) rpm while adding gradually the content of a 25 Kg bag of **VICAREP-R** for enough time to produce a homogeneous mix.
- For small scale tasks, Mix approximately 4.0 parts by volume of **VICAREP-R** powder to approximately 1 part by volume of clean potable water or alternatively 0.14 liters of water to one Kg of **VICAREP-R** powder.
- For active water situations, mix should be of a stiffer consistency.
- Mixing should be carried out using a gloved hand.
- Do not mix more than can be placed within 5 minutes.

Application

- The general practice rules apply for different applications.
- Where build up is imposed, successive layers will be applied by the wet on wet technique where each layer is fused to the previous one immediately or by allowing initial set to take place and then applying the next layer into the previous one.
- Curing is very important at least during the first three days. It can be done by the use of water means (soaking, wet burlap, wet sand ...etc) or by the use of a suitable curing compound.
- In cold weather, the use of warm water will accelerate the setting time and in hot climate the use of cold water will retard it.

Precautions

- Protect the **VICAREP-R** bags from direct sun rays or any other source of heat before use, this can lead to a very fast setting.
- Avoid working on hot substrates.
- Avoid mixing with hot water.
- **Avoid contact with gypsum or any other sulfates on substrate, mixing water or curing water in plastic state.**

Health and safety

VICAREP-R is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs, wash thoroughly with clean water. Should eye contact occur, rinse immediately with plenty of clean water and seek medical advice.

Storage & shelf life

VICAREP-R should be stored in normal temperature and closed shaded dry area in undamaged original packing. It is recommended to be re-tested after 6 months from the production date.

Technical support

For any technical support, please consult our technical office or representatives.

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