

VICAREPLUG®

Edition 07022

Very fast setting, General Purpose Cementitious Repair Mortar and Permanent Hydraulic Water-stop

Description

Vicareplug is a one component, cementitious, very fast setting restoration/repair mortar and water plug based on **Prompt** cement in a shrinkage compensating 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 water stop and fast repair applications. The setting time is within 2 minutes to 5 minutes and the early strength gain can achieve up to 12 MPa within 3 hours at low water /powder ration. The mixed plugging mortar is easily placed by hand and is extremely stable under pressure. The placed plug is shrinkage compensated and will fill all gaps to prevent water ingress. **Vicareplug** 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.

Vicareplug is an excellent patching solution for difficult vertical/overhead applications without using expensive and intricate forming techniques. This single component, fast setting repair mortar instantly stops running water or fluid seepage in concrete or masonry structures and permanently plugs non-moving cracks, joints and voids.

Advantages

- Non-shrink.
- High early strength with long term strength gain.
- Water proof.
- Characteristics improvement over 10 years.
- Resists alkalis and acids of PH as low as 4.
- Resists carbonation providing excellent protection for steel reinforcement.
- Formulated for short and long term efficiency.
- Excellent 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.
- Low heat of hydration, no thermal cracking.

Uses

Vicareplug is designed to minimize downtime. It can be used vertically, horizontally or overhead. Whether the application is interior or exterior, **Vicareplug** 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, filling of non-moving joints and cracks or any general purpose repair.

Vicareplug is also suitable as a water plug to effectively stop active fluid seepage.

Typical Mortar Properties at 20°C

Compressive Strength (MPa)

Water to powder ratio = 0.19 by weight

Age						
15 mins	1 hour	3 hours	24 hours	7 days	28 days	56 days
3 Mpa	15 Mpa	18 Mpa	40 Mpa	45 Mpa	50 Mpa	62 Mpa

Compressive strength is increasing thereafter.

Consistency : Stiff mortar

Consistency life: 2 to 5 minutes

Volume stability: Non shrink

Fresh Density : 2.2 g/cm³

Package & Coverage

Vicareplug is supplied in 5 & 10 Kg packs (**other sizes maybe available upon request**), after mixing with water; one Kg yields about 0.5 Liter of stiff mortar.

Allowance should be made for any possible wastage when estimating.

Application Instructions

Surface preparation

- All contact surfaces must be sound, clean and provide a good mechanical key.
- Remove all loose material, plaster, paint and oily deposits.
- 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 "V" type notches or cuts.)
- Avoid feather edging.

Priming

- Where placing or plugging is being carried out in wet conditions, no priming is necessary.
- If concrete surfaces are dry, dampen with water before application of the **Vicareplug** to assist adhesion.

Mixing

- Mix approximately 4 parts by volume of **Vicareplug** powder to approximately 1 part by volume of clean potable water or alternatively 0.19 - 0.20 liters of water to one Kg of **Vicareplug** powder.
- For damp cracks and fillets, mix should be semi-wet.
- For active water situations, mix should be of a stiff consistency.
- Mixing should be carried out using a gloved hand.
- Do not mix more than can be placed within 2 minutes.

Application

- Apply the **Vicareplug** firmly into the crack or fillet using a suitable trowel.
- When working against water pressure work towards the point of highest pressure and finish using a gloved hand forcing the material against the pressure until set.
- Cut off excess material from the face within 3 minutes.
- Dampen fillet after application.
- 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.

Curing

- When used as a water plug no further curing is necessary.
- When used in dry conditions the applied plug should be prevented from drying out too quickly.
- Where heat generation takes place cool with water for 10 minutes after application.

Precautions

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

Health and safety

Vicareplug 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

Vicareplug should be stored in normal temperature and closed shaded dry area in undamaged original packing. It is recommended to be re-tested after 3 months from the production date if packed in paper bags and retested after 18 months if packed in plastic bags.

Technical support

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

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