

VICASEAL INJECTION®

Edition 10026

One component cementitious injection slurry to stop seepage through concrete and masonry by filling and sealing cracks and voids

Description

Vicaseal injection is a ready-to-mix powder based on **Prompt** cement within a synergistic blend of special binders and additives. The mix contains no chlorides, ferrous metal or other deleterious materials.

The product is pre-blended and ready for mixing on site to produce injectable slurry which after filling and sealing voids and cracks wider than 0.5 mm, in concrete and masonry, will expand insuring optimum compactness and strength.

If injected against hydrostatic pressure, it will stop water leakage through concrete and masonry.

Advantages

- Decreased permeability as well as characteristics improvement over 10 continued years.
- Slow hydration of dicalcium silicate ensures filling of fine cracks & Self-healing.
- Accelerated setting and hardening.
- Non-shrink and will expand after application.
- High fluidity.
- Thin cracks injection, width > 0.5 mm.
- High mechanical strength.
- Excellent adhesion and compatibility with concrete.
- Excellent resistance to sea water and sulfated water.
- Nontoxic, suitable for food industry and potable water.
- Cost effective compared to resinous grouts.
- Easy to apply, saves time.

Fields of application

Typical applications include but are not limited to:

- Stopping seepage through concrete and masonry by injecting against hydrostatic pressure.
- Injection into concrete cracks and under plates or slabs.
- Regeneration of porous and spongy concrete.
- Consolidation of masonry structures.

Technical data

Appearance: Grey ready-to-wet powder

Toxicity: Non-toxic

Adhesion: > 10 Kg/cm²

Water/Powder ratio	0.35	0.40	0.45
Gelling time (minutes @ 26°C)	10	25	40
Setting time (minutes @ 26°C)	30	65	85
Fresh density (Kg/L)	1.95	1.90	1.83

Compressive Strength: According to En196-1 (0.35 water / Powder ratio)

24 h	7d	28d	56d	120d	180d
13 Mpa	31 Mpa	46 Mpa	51 Mpa	55 Mpa	58 Mpa

Package & Yield

Vicaseal injection is supplied in 5 Kg bags & 10Kg bags (other sizes maybe available upon request).

After mixing with water, the 1 Kg yields about 0.7 – 0.8 liters of injectable slurry depending on water addition.

Application Instructions

Surface preparation

- The concrete along the crack should be clean, free from dust, loose particles, grease, oil or any other foreigner matter.
- Loose materials, such as unbonded masonry mortar, loose bricks or delaminated concrete must be removed from the sides of the cracks in a minimum range of 5 cm.

Drilling injection holes

- Drill the hole (Ø13 or 18 mm) into the crack in conjunction with V-grooving of the cracks to a depth of 2 – 3 cm below the apex of the V-grooved section.
- Clean the hole and remove the drilling dust before placing the injection hose.

Sealing the face of the crack

- After placing the injection hose, the V-grooving is sealed with **Vicaseal mortar R** or **Vicareplug** (See separate data sheet) or rapid mortar to ensure fixation of the injection hose, quick setting and hardening, and tightness.

Testing the system and prewatering

- If seepage was occurring from a crack or void, make sure that water is leaking from injection hose only.
- If the crack was dry, dampen it by injecting clean water to clean it.
- Check the function of the whole system by the use of water. Prewater the sides of the crack at the same time.

Mixing

- Fill the complete bag of **Vicaseal injection** under slow mixing into the measured quantity of water (**1.75 – 2.25 Liters / 5kg bag**) or (**3.5 - 4.5 Litres/ 10kg bag**) and machine-mix the material on fast speed (1500 – 2500 rpm) for 2 – 3 minutes until it is homogeneous.
- Preferably use a metallic mixing pot and a drilling machine.
- Pour the ready injection grout through a fine sieve into another pot.

Injecting

- **Vicaseal injection** can be injected in either low or high pressure method.
- Usually the injection in concrete is made with a pressure of 2 – 3 bars, when the crack sides are wet or 3 – 6 bars, when they are dry.
- If the crack is vertical, the injection process should begin with pumping grout into the entry port at the lowest elevation until the grout level reaches the entry port above. The lower injection port is then capped, and the process is repeated at successively higher ports until the crack has been completely filled and all ports have been capped.
- For horizontal cracks, injection should proceed from one end of the crack to the other in the same manner.
- The crack is full if the pressure can be maintained. If the pressure cannot be maintained, the grout is still flowing into unfilled portions or leaking out of the crack.

Precautions

- Protect the **Vicaseal injection** 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 and mixing with hot water. The temperature range for use is 5°C - 30°C.
- Active cracks should be treated separately.
- Clean all working equipment and tools as soon as possible with water.
- **Avoid contact with gypsum or any other sulfates on substrate, mixing water or curing water in plastic state.**

Health and safety

Vicaseal injection 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.

Full health and safety data are given in Product Safety Data Sheet.

Storage & shelf life

Vicaseal injection 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.

More information

Please refer to the **Prompt** technical document and the CD-ROM of VICAT special binders.

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