

Setseal R

Cementitious capillary waterproofing render for concrete



DESCRIPTION

Setseal R is a specially formulated single component cementitious crystalline capillary waterproofing system consisting of a blend of cement, fillers, and multiple activating chemicals. When mixed Setseal R produces a brush applied cementitious render.

Setseal R prevents the penetration of water by causing a catalytic reaction that produces a non-soluble crystalline formation within the pores and capillary tracts of the concrete. This crystalline growth reduces substrate porosity and can fill hairline cracks.

APPLICATIONS

Waterproofing and protection of:

- » Potable water tanks.
- » Basements.
- » Bridge decks.
- » Tunnels.
- » Swimming pools.
- » Sewage tanks.
- » Retaining walls and foundations.
- » Underground parking.

ADVANTAGES

- » Works by combining with free calcium in the cement to form insoluble crystals.
- » Non-toxic system.
- » Can be applied to moist and green concrete.
- » Helps the substrate to resist chemical attack over a wide (pH) range, and freeze/thaw cycles.
- » Excellent adhesion to the substrates.
- » Durable system and resistant to alkalies.
- » Becomes an integral part of the structure to which it is applied.
- » Allows the structure to breathe.
- » Gives waterproofing effect for positive and negative hydrostatic water pressure.
- » Ease for application.
- » Labor cost effective.

STANDARDS

Setseal R complies with BS 6920:2000 as a suitable product in contact with water intended for human consumption with no effect on the public health of the quality of the water.

TECHNICAL PROPERTIES:

Colour:	Cement grey free from lumps
Mixing ratio:	8 - 9 ltr/25 kg bag
Mixed density:	2.0 ± 0.1
Working time:	25 - 45 min @ 25°C
Initial setting time:	60 - 80 min @ 25°C
Chemical resistance:	Compressive strength will not be affected by more than 5% under Acid exposure and salt exposure
Waterproofing: (Positive and negative pressure) DIN 1048	At 8 bars: Impermeable system after reaching the full activation period
Waterproofing permeability: (CRD-C48) @ full activation period	Positive pressure: Impermeable @ 8 bars (80 m water head). After 280 hr, 13.8 bars (138 m water head), water flow measure is 0.065 cc/hr Negative pressure: Impermeability with negligible damping at 13.8 bars (138 m water head and 420 hr)

METHOD OF USE

SURFACE PREPARATION

Substrates should be mechanically prepared by bush hammering, grit blasting, etc, to produce a clean finish, free from dust, oil, grease, paint, laitance, etc. in order to provide a 'key' for the Setseal R.

Setseal R may be applied to fresh concrete as soon as the shuttering is struck. Ensure that all mold release oil has been removed first.

For leaks and water jets must be stopped using Setplug, which is an effective plugging compound.

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PRIMING

Water damping is needed continuously for at least 24 hours if the substrate is dry. The prepared substrate surface should be thoroughly dampened with clean water to minimize suction.

Ensure that there is not surface water present prior to application of Setseal R.

MIXING

8.0 - 9.0 litres of clean fresh water for each 25 kg bag of Setseal R should be added to a clean container. The powder is then added slowly to the water while mixing continuously at low speed (400 - 600 rpm).

Care must be taken when using slow speed drills which can introduce too much air into the mix, they must be used for a minimum mixing time commensurate with obtaining a homogeneous mix, lump free and creamy brushable mix.

APPLICATION

Setseal R should always be applied to the dampened substrate in minimum two coats. Application is done by a brush, with a coverage rate of 17 m² per the mixed bag. More than 1 mm thickness in the first coat is not recommended.

The second coat should be applied when the first coat is still "green" within 24 - 48 hours. Before applying the second coat, the first coat should be washed by water so as to take off any salt formation on the surface. Again the second coat is recommended to be applied not more than 1 mm thick to the washed dampened surface.

CURING

Setseal R should be kept wet and moist for at least the first 3 days from application. Soft water jet is needed for curing after the initial set of the last coat. Keep wetting the applied system for the initial few days is important for the reaction.

Setseal R needs to be protected from damage for the first 7 days. And after this period, the applied area will be ready to handle the needed service.

Based on the waterproofing principle of Setseal R, full activation may take 2 - 3 weeks from the application time.

WORKING TIME

Setseal R has a working time of approximately 25 - 45 minutes at 25°C. Mixed material should not be left standing for any length of time prior to application as this will considerably shorten its working life, and may lead to flash setting.

Notes:

- » *Setseal R should not be placed when the substrate or ambient temperature is 5°C and falling.*
- » *Setseal R system works more efficient with substrates containing at least 15% OPC.*
- » *Good surface preparation, damping the substrate before application and the recommended curing procedure are important factors for getting the best performance.*

CLEANING

All tools should be cleaned with water immediately after use.

PACKAGING

Setseal R is available in 25 kg polythene-lined paper sacks.

COVERAGE

The coverage obtained will vary depending on the porosity and texture of the surface to which the materials is applied. As a guide, the coverage should be around 1 – 1.5 kg dry powder/m² per coat. A 25 kg bag should be sufficient to cover 17 – 20 m² per coat.

STORAGE

Protect from frost and store under a dry warehouse conditions at temperatures between 10°C and 30°C.

SHELF LIFE

Setseal R has a shelf life of 12 months from date of manufacture if stored in proper conditions and un-opened packs.

If these conditions are exceeded, DCP Technical Department should be contacted for advise.

CAUTIONS

HEALTH AND SAFETY

As Setseal R contains Portland cement and sand, Setseal R may cause irritation to skin or eyes.

In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice.

For further information refer to the Material Safety Data Sheet.

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A wide range of construction chemical products are manufactured by DCP which include:

- » Concrete admixtures.
- » Surface treatments
- » Grouts and anchors.
- » Concrete repair.
- » Flooring systems.
- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.



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Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.

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