

# BETEC™ WATERSTOP PLUG

Fast Set Non-Shrink Leak Seal Compound

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## Product Description

A one-part, cement based, fast set plugging mortar for stopping active water infiltrations. When mixed with water it forms a plastic, highly workable mortar which can be applied by hand to plug leaks in concrete and masonry structures.

## Uses

- Sealing active water leaks and seepage through cracks, non-moving joints, honeycombing and holes in concrete, masonry, and stone
- As a preparation to seal concrete cracks/non-moving joints prior to carrying out waterproofing resin injections

## Advantages

- Fast setting time for instant plugging of leaks
- Can be applied directly to wet surfaces
- Strong bond – Resists washout under active water pressure
- Simple “add water, mix and pack” application
- Low VOC – <10 gram/litre TVOC
- Compatible with concrete and masonry
- Does not produce efflorescence
- Does not contribute to steel corrosion

## System Components

BETEC™ Waterstop Plug – 1-part, fast cure, cementitious plugging mortar

CRYSTALSEAL™ – 1-part, cementitious crystalline growth compound for secondary sealing of damp concrete surfaces

## Design

Generally, suitable for dry, wet, damp or dampened cracks, non-moving joints in vertical and horizontal concrete, masonry and stone (subject to site adhesion test to specific stone involved).



## Compatibility / Adhesion

BETEC™ Waterstop Plug may be applied to the following cured, stable, prepared substrates:

- Poured in-situ and pre-cast concrete, blockwork, brick
- Concrete masonry, blockwork
- Most unglazed brick (test adhesion before use to confirm)
- Most stone (test adhesion before use to confirm)

## Substrate Quality

Substrates must be structurally sound and clean.

### New Concrete

Well compacted, cured 28 days, dependant on concrete thickness.

### Curing and Form Release Compounds

Only non-permanent, degrading acrylic types may be used. Residues must be removed by water blasting or grinding prior to priming. Wax emulsion, oil, hydrocarbon, hydrocarbon resin, chlorinated rubber, silicon containing or bitumen emulsion types are unacceptable.

### Concrete Strength

Compressive Strength - minimum 25 MPa.

Tensile Strength – minimum 1.5 MPa.

## Substrate Preparation

### Concrete, Masonry, Brick and Stone

Remove all dirt, dust, weak or damaged concrete, laitance, oil, grease, coatings, curing compounds, form release agents, mould, algae and other contaminants which could adversely affect adhesion by an appropriate method. This may include brooming, scraping, water blasting (4000 psi with RotorJet head), captive or grinding.

Advise main contractor of identified structural cracks and moving construction joints. Rectifications to be arranged by main contractor.

Chase cracks, non-moving construction/cold joints and holes to a minimum width and depth of 20mm and clean away dust/slurry with clean water. Do not form "V" chases. Undercut sides of chase to maximise binding strength of the BETEC™ Waterstop Plug.

Pre-wet all substrates thoroughly with clean water until the substrate is saturated.

## Application Conditions

The following GCP product application details assume typical conditions of 22 °C and 60% relative humidity. Allowance must be made by the applicator for product application and cure times that vary from these typical conditions. BETEC™ Waterstop Plug will cure more slowly in cold weather and rapidly in warm weather.

PARAMETER	LIMITS
Substrate Temperature	+5 °C to +35 °C
Ambient Temperature	+5 °C to +35 °C
Relative Humidity	10% to 98%
Condition	Clean, damp and free from contaminants

## Mixing

### General

BETEC™ Waterstop Plug has a workability time of less than 1 minute at 22 °C. Only mix the product immediately before installation.

Wear protective rubber gloves, eye protection and a dust mask during all handling, mixing and installation processes, in accordance with the current SDS for BETEC™ Waterstop Plug.

The specified mix ratio of 3:1 (by weight) must be adhered to:

3 Parts BETEC™ Waterstop Plug : 1 Part Water

Mix only small amounts of BETEC™ Waterstop Plug at a time. eg. - 300 grams BETEC™ Waterstop Plug : 100 grams Water.

Addition of excess water will reduce strength of the cured product.

Only use clean, fresh water with BETEC™ Waterstop Plug.

In warm weather, use cold water to extend workability time of the mixture.

## Mixing

To a clean plastic container, add the required amount of clean water.

To assist with mixing, round, bowl-like plastic containers provide the best results.

Add the required amount of BETEC™ Waterstop Plug powder to the container and mix using a gloved hand for approximately 15 seconds, until a smooth putty like consistency is achieved.

The mixture will become slightly warm during mixing.

## Application

Apply the mixed BETEC™ Waterstop Plug when it is stiff, but still plastic.

Press the material into the chase/cavity and keep in place by exerting pressure with a gloved hand until the mortar has set and become solid.

Do not move the mortar during the setting phase.

Do not release pressure too quickly. The mortar must be allowed to develop sufficient strength to withstand the water pressure.

At internal corners (wall-slab, wall-wall joints) form the mortar into 45° fillets.

The mortar may be applied in several layers, especially when applying to large voids.

In some cases it may be required to use plastic drainage tubes to release water pressure during application of the mortar. Once the repair is set, remove the tube and plug hole with mortar to fully seal off water flow.

Due to rapid hydration, BETEC™ Waterstop Plug will develop a high temperature during cure. To prevent rapid loss of water, dampen the hardening mortar with clean water for approximately 15 minutes after application.

If dampness of substrate surrounding the repair persists, it may be sealed by application of a slurry coat of CRYSTALSEAL™ 1-part, cementitious crystalline growth compound.

## Clean up

Clean application equipment immediately using clean water. Hardened product must be removed mechanically.

## Supply and Packaging

PRODUCT	PACKAGE SIZE
BETEC™ Waterstop Plug	15 kg pail
CRYSTALSEAL™	12.5 kg pail

## Estimating

Application rates are dependent on type and size of repair. As a guide, a typical 20mm x 20mm chase will require a minimum 1.3kg of mixed BETEC™ Waterstop Plug per meter of chase length, or 0.975kg of BETEC™ Waterstop Plug powder and 0.325kg of water, not including wastage.

## Storage

Product should be stored in original packaging at temperatures between 10° and 35°C, under cover and protected from all sources of heat, ignition, moisture, frost and direct sunlight.

## Shelf Life

Twelve (12) months from date of manufacture when stored in original, unopened packaging, in accordance with storage conditions detailed above.

## Typical Properties

### Unmixed Product Properties

PROPERTY	TYPICAL VALUE
Appearance	Dark grey powder
Particle Size (mm)	0 to 1.0

### Mixed Product Properties

PROPERTY	TYPICAL VALUE
Appearance	Dark grey, with putty like consistency
Mix Ratio BETEC™ Waterstop Plug : Water	3 : 1 (by weight)
Mixed Mortar Density (kg/m <sup>3</sup> )	2150
Working Time @22°C (seconds)	30
Setting Time @22°C (seconds)	60
28 Day Compressive Strength (MPa)	30

The above values and properties do not constitute a specification

## Shelf Life

Stored in a cool, dry place unopened or resealed pails have a shelf life of 1 year from date of manufacture.

## Health and Safety

For all GCP products, read the product label and Safety Data Sheet (SDS) before use.

Always wear PPE detailed in the SDS for this product and comply with all risk and safety phrases detailed. SDS is readily available from GCP Applied Technologies.

## Limitations

Cementitious materials can lead to incompatibilities under certain conditions in combination with non-ferrous metals such as aluminium, copper, zinc etc.

Low temperatures delay the setting of this material.

High temperatures accelerate the setting and decrease the working time of this material.

Unsuitable for sealing water ingress at moving joints or active cracks.

Unsuitable for structural repair to structural cracks etc.

## Warranties

GCP and contractors recognised by GCP as experienced in the application of GCP products will provide warranties for individual projects. Warranty periods offered are dependent on project details, complexity and GCP products installed. Requests for very long warranty periods may necessitate increased membrane thicknesses to ensure longevity. Contact your local GCP representative for further details.

Release Date: 30/01/2019. The information contained in this Product Data Sheet supersedes all previous versions.

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