

BC Seal

Cementitious Acrylic elastomeric water proofing system guide and method statement

System Guide and Description

BCI Cementitious water proofing consist of following steps

Concrete repair : BC Repair 100

Water proofing : BC Seal (Cementitious elastomeric)

Reinforcement : BC Geo membrane

Water proofing : BC Seal (Cementitious elastomeric)



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SYSTEM DESCRIPTION

Description

BC REPAIR 100 is high quality water- resistant repair mortar based on Portland cement and crushed limestone aggregates. It can also be used for filling the crack up to a width of 4mm in the concrete surfaces.

Primary Applications

- Filling cracks, holes in the concrete surfaces.
- Leveling un-even concrete surfaces.
- Can be applied in both interior and exterior applications.
- Resistant to UV radiation and rain.

Features/Benefits

- Can be used in both dry as well as wet concrete surfaces.
- Can be used in both interior as well as exterior walls.
- Highly workable. Contains some additives that impart consistency and workability to the product.

BC Seal

Product Description

A two part acrylic modified cementitious coating. It is composed of special types of cement, fillers (powder), and a copolymeric acrylic blend with chemical additives (liquid). Once mixed, BC Seal produces a tough flexible waterproofing membrane which bonds to most concrete or masonry substrates and protects against possible ingress of water and waterborne chemicals.

Advantages

- Polymer modified, therefore reduces permeability while increasing bond, flexure and tensile strength
- Withstands negative and positive water pressure
- Elastomeric, can bridge cracks up to 1.5 mm
- Resistant against Chloride and Sulphate ion attack
- Breathable, whilst repelling water it allows substrate to breath
- Good adhesion, bonds to porous and non-porous substrate
- Non-toxic, can be used for potable water tanks
- For interior or exterior use, old and new surfaces
- Can be applied to 24 hours old concrete, thereby giving immediate protection to concrete.

BC GeoTextile

BC range of Staple Fibre Needle Punched and Thermally Bonded Nonwoven Geotextiles have been designed to offer optimum performance per unit weight.

Their resulting mechanical robustness and excellent hydraulic properties make them the ideal choice for separation and filtration.

Typical applications for non woven geotextiles include:

Typical Uses and Applications:

- As a general purpose separator for use under site access roads and areas of hard standing
- As a separation and strengthening layer under new roadways, car parks, industrial units etc.
- As a filter surround in the construction of a French drain or granular drainage blanket
- For filtration: to allow the passage of fluids whilst preventing the uncontrolled passage of s

Surface Preparation

All surfaces should be sound, clean, dry and free from loose and flaking material, efflorescence, laitance, curing compounds, dirt, oil and grease.

New concrete or cementitious surfaces should be allowed to cure for at least 21 days and have a moisture content, not exceeding 5% before proceeding with the primer application.

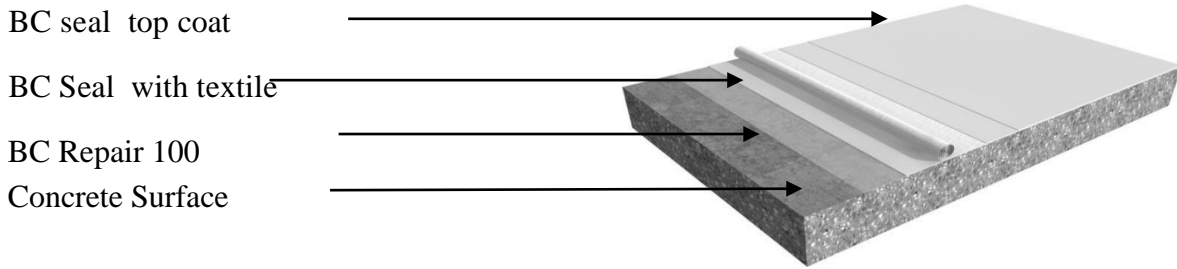
Laitance and weak deposits on new concrete floors must be removed by light grit blasting, mechanical scabbling or grinding.

For old concrete floors, use mechanical methods like grinding or blasting particularly when heavy contamination by oil and grease has occurred or existing coating is present, to provide a suitable clean surface with a profiled open texture. All repairs to cracks, leveling of floors, voids filling should be done using suitable Build a Rep Repair Products.

Once the repair is completed allow the product to cure. The surface after carrying out necessary cleaning, shall be vacuumed for removing dust loose debris left over after the cleaning process. Metal surface must be perfectly cleaned



1.1 System Build



Pre-Project Preparation

1.2 PROJECT CHECK

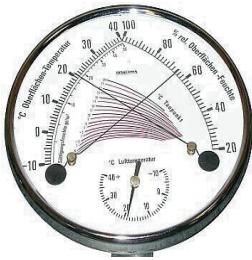
It is invaluable to check the project in advance. The following checklist, although not exhaustive, is a guide to the most important points to take in consideration.

- ✓ Check that the construction and substrate are in good condition.
- ✓ Check that the roof has adequate falls with 3° Minimum.
- ✓ Check that new concrete has cured for at least 28 days and has a pull off strength $\geq 1.5 \text{ N/mm}^2$.
- ✓ Check that the surface is dry and substrate humidity is maximum 6 % without emitting dampness.
- ✓ Check the ventilation and ensure that during application it is sufficient.
- ✓ During phase of refurbishment, check that the application on the roof is not disturbing the internal environment.
- ✓ Check that the necessary health and safety equipment e.g. scaffolding, ladder etc. is available onsite.
- ✓ Check the measurement of the project.
- ✓ Make a programme for the whole project. Check staff (where necessary) are available when required, all Sikalastic®-560 products including tools/equipment as well as the protective health and safety equipment are available at and for the required period of time.
- ✓ **Check weather conditions** system requires conditions as below.
- ✓ **Substrate Temperature** + 8 °C min. / + 35 °C max.
- ✓ **Ambient Temperature** + 8 °C min. / +35 °C ma

- ✓ **Dew Point** - Beware of condensation! The substrate and uncured membrane must be at least 3 °C above the dew point to reduce the risk of condensation. Condensation may affect adhesion and could affect appearance – see below.

1.3 Determination Of Dew Point

It is important to pay close attention to avoiding dew point conditions. The application temperature must exceed the dew point by at least 3 °C. The dew point can be defined with a point device or manually by the dew point chart as following explained.



1. Measure air temperature in °C
2. Measure atmospheric humidity in %
3. Measure substrate temperature in °C
4. Determine dew point temperature using dew point chart or Sika slide rule guide
5. Add 3 °C to dew point temperature
6. Verify that substrate temperature is at least 3 °C higher than dew point

Example: Air temperature: 20 °C Atmospheric humidity: 60% Substrate temperature: 16 °C Determined dew point temperature with dew point chart:

12.0 add 3 °C: 15.0 °C.

Verify: Is 16 °C greater than 15.0 °C? Decision: Installation is not permissible. Dew Point Chart

Application

1.4 SURFACE PREPARATION

Generally speaking all surfaces must be clean dry and sound the following section suggests methods of dealing with most common substrates.

Cementitious substrates

New concrete should be cured for at least 28 days and should have a pull off strength ≥ 1.5 N/mm². Inspect the concrete, including up-stands, all areas should be hammer tested. Concrete must be suitably finished, preferably by wood float or steel pan. A power float finish is acceptable where the surface is prepared to avoid laitance (a tamped finish is not acceptable). The surface finish must be uniform and free from defects such as laitance, voids or honeycombing.

Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed.

Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products from BCI range of materials. High spots must be removed by e.g. grinding.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Any requirement for priming must also be considered. Installing the coating either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.

Brick and stone

Mortar joints must be sound and preferably flush pointed. Make good any missing mortar and power wash – allow to dry.

Ceramic tiles

Ensure all tiles are sound and securely fastened, replacing obviously broken or missing sections. Tiles need a good adhesion to the substrate otherwise they need to be removed. Power wash clean thoroughly and allow drying. Test adhesion to surface, glazed tiles must be abraded prior to priming. Degrease with detergent or proprietary degreasing agent. Ensure tiles are not situated above high levels of moisture.

Asphalt

Asphalt contains volatiles which can cause bleeding and slight non-detrimental staining. The asphalt must be carefully assessed for moisture and/or air entrapment, grade and surface finish prior to any coating works being carried out. Power wash. All major cracks should be sealed. Asphalt must be carefully assessed for moisture and/or air entrapment, grade and surface finish prior to any coating works being carried out. Coatings on asphalt must be *fully reinforced*.



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1.5 Curing TIME

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Ambient Conditions	Min. waiting time Overcoating	Rain Resistant ²	Full cure
+20°C/50% r.h	~ 24 hours	~ 8 hours	~ 4 days
+30°C/50% r.h	~ 12 hours	~ 4 hours	~ 2 days

2 Be aware that impact of heavy rain or rain showers can physically mark or damage the still liquid membrane.

5 EQUIPMENT

Preparation equipment appropriate to the surface. **Light blasting equipment –**

professional use only. Grinders – do not use on bitumen

Use appropriate equipment for the project – pneumatic grinders may be required in some locations.



Wire brushes – hand or mechanical



High pressure water jet

Very common method of preparation – works very well – **caution** – adding water to surface may enter building so sealing may be necessary and surface will also need to be allowed to dry out before coating commences.



Pressure feed roller

Can be used in combination with spray pump for rapid roller installations.



Rollers

Small rollers ideal for detailing work.



Medium pile solvent resistant rollers are ideal for most surfaces
– use double arm rollers to get even application of coating and even pressure if embedding fleece.

Larger deck roller extension pole – enables a longer reach.



Brushes

Various sizes of brush are useful for detail work

Use any equipment only as instructed by supplier or manufacturer.

Work procedure

1. Mix BC Seal liquid and powder with the help of electrical jiffy mixer to a homogeneous paste like consistency mass and spread in the concrete as thick layer
2. Immediately place BC geo textile over wet layer and just make it as a covering layer
3. Allow the system to dry hard and remove laitances in any loose fabric materials on top surface
4. Apply final coat of BC Seal over fabric as followed in step one and allow it for overnight drying

6 DISPOSAL

Disposal of emptied tins of BC seal .

Where residual material has fully cured the material poses no threat to health, safety or the environment. Therefore containers coated with fully cured residues do not need special disposal considerations.

Where residual material has not cured or a skin has formed on the surface this must be disposed as hazardous waste according to local regulation, any markings denoting hazards must remain.

For more detailed information pls. refer to the MSDS.

7 Limitations

Do not apply BC Seal on substrates with rising moisture.

Always apply during falling ambient and substrate temperature. If applied during rising temperatures “pin holing” may occur from rising air.

Ensure that temperature does not drop below 8 °C and that relative humidity does not exceed 80 % until the Membrane has fully cured.

Ensure that BC seal is totally dry and the surface is without pinholes before applying any top coat.

8 Safety Measures On Site

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Personal Protection:

The following protective equipment is essential for anyone working with BC products.



In addition to protective clothing it is also recommended to use a barrier cream on the skin. The use of a barrier cream is more useful and effective than often reputed, they are inexpensive, convenient, and protect well if they are not frequently flushed with solvents. However, barrier creams are only a supplement to and not a replacement for protective gloves, so always wear gloves. Always ensure there is no contamination inside gloves before reusing them.

Wash your exposed skin occasionally during the workday and immediately if any Liquid Applied Membrane product gets on it. Avoid using solvents since they can help Liquid Applied Membrane material penetrate in to the skin and solvents themselves are aggressive and harmful to the skin. If water is no more available at any time or shorten, then clean the contamination with sand instead. Certain hand cleaners also work without harmful effects. Citrus skin cleaners, for example, are effective and mild. Soap and water takes time, but also eventually works for small areas.

Avoiding skin contact by keeping tools and equipment clean is one of the best ways to protect oneself.

Despite safety precautions, with any instances of skin contact rinse immediately with clean water and use warm water and soap to thoroughly clean the skin. A good skin cleanerT.

No[®] applications should ever proceed without sufficient water being adjacent and available for eye washing.

If adequate clean water is not provided then the project should not commence, no matter what the urgency. If a professional eyewash kit is not available, then at the very minimum one quart of clean water must be present. The water can be in a pail, plastic jug or via a hosepipe.

Safety glasses or other eye protection obviously help those doing the work but they can also create a false sense of security. Do not take risks with health!

In the event of any spillage or contact into the eyes, always seek medical advice immediately after rinsing and cleaning the eyes with the clean water.



Ensure sufficient ventilation during application in closed or confined spaces. Dependent on local regulations respiratory masks may be required. Please observe all relevant local regulations.

Hard hats, safety shoes and ear protection are also generally recommended on construction sites.



9 LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of BCI products, are given in good faith based on BCI's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with BCI recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the products suitability for the intended application and purpose. BCI reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.