BUILDING CHEMISTRY INDUSTRY

BC 914 CA Polyurea method statement

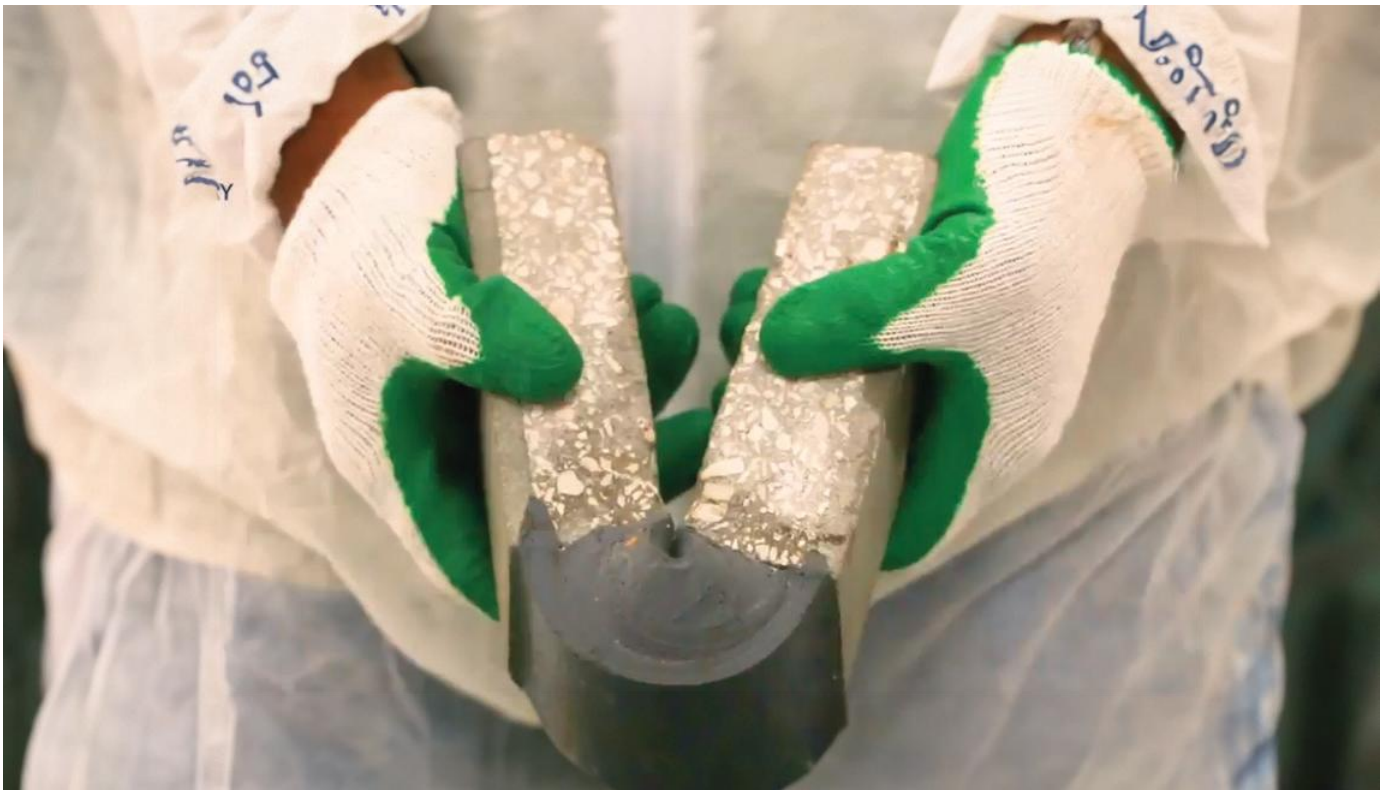
System Guide and Description

BC 914 CA Polyurea water proofing consist of following

Concrete Repair:	**BC Repair 100**
Primer:	**BC 913 Primer**
Water Proofing:	**BC 914 CA Polyurea (Cold Applied)**

BUILDING CHEMISTRY INDUSTRY

Table Of Contents



Charecteristics and advantages

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.

Properties and advantages

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.
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 914 Cold polyurea

BC 914 CAPolyurea is a two component, pure grade, brushable polyurea waterproofing coating for concrete substrates , where mechanical durability and outstanding waterproofing properties are required. It forms a blister-free, non-moisture permeable film providing zero water absorption and remarkably high resistance against UV and mechanical stress.

Properties / Advantages

Prevents moisture penetration by providing a complete sealing.
Offers increased resistance to bending and stretching .
Very high mechanical strength.
Remarkable resistance against UV.
Excellent bonding to all building substrates such as concrete, plaster, masonry, metal, wood.
Blister free coating. No appearance of holes in the surface during the curing of materia l.
Dries and cures quickly.
Long pot life.
Crack bridging properties.
Easy to apply.
Long-lasting waterproofing protection.
Ideal solution for waterproofing walkable roofs.
Resistant to temperature from -35^{3}C to +80^{3}C.

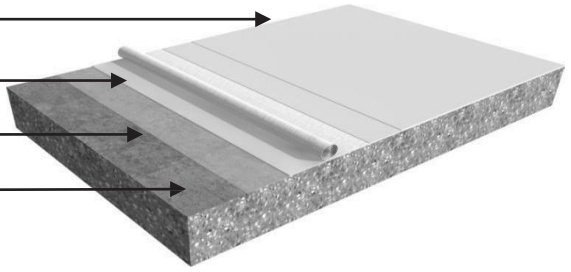
1.1 System Build

BC 914 CA Cold

BC 914 CA Cold

BC Repair 100

Concrete Surface



Pre-Project Preparation

1.2 PROJECT CHECK

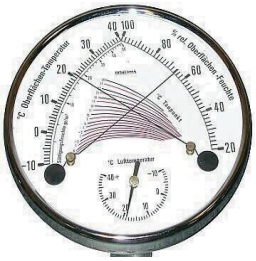
It is invaluable to check the project in advance. The following checklist, although not exhaustive, is a guide the most important points to take in consideration.

- ✓ Check that the construction and substrate are in good condition.
- ✓ Check that the roof has adequate falls with 3^0 Minimum.
- ✓ Check that new concrete has cured for at least 28 days and has a pull off strength ≥ 1.5 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 on site.
- ✓ 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 °Cabove 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 exceedthe 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 °CDetermined 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. Powers 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.*

1.5 Curing TIME

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

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 somelocations.

Wire brushes – hand or mechanical

High pressure water jet

Very common method of preparation – works very well – **caution** – adding water to surfa building so sealing may be necessary and surface will also need to be allowed to dry out b commences. Then pour the mixed material into a clean bucket, from which it canbe applied.

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 ifembedding fleece.

Larger deck roller extension pole – enables a longer reach.

Brushes

Various sizes of brush are useful for detail work

Mixing of material and application

BC Repair 100 is mixed with required amount of clean water to make trowel application consistency and applied uniformed over cracks, path holes and damaged areas and allowed cure for minimum 8 to 12 hours e

BC 914 CA Polyurea supplied in dual containers consisting of base material and catalyst (Isocyanate) . Both the components are mixed uniformly with the aid of electrical jiffy / paddle mixer and applied over properly prepared, repaired surfaces to get a built up thickness of 2mm and allowed to cure for about 24 hours before put in service

Note

Curing is faster at higher temperatures and slower at lower temperatures. The application time also depends on the startingtemperature of the product.

6 DISPOSAL

Disposal of emptied tins of BC 914 CA Polyurea

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 914 ca Polyurea 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.

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 andavailable 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 ofclean 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 andcleaning the eyes with the clean water.

Ensure sufficient ventilation during application in closed or confined spaces. Dependent on local regulationsrespiratory 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 partiesmust 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.