BC Guard

1-SYSTEM DESCRIPTION:

BC Guard is a cold-applied, one-component waterborne liquid applied waterproofing membrane, highly elastic and UV-resistant.

BC Guard combines the high performance of a polyurethane dispersion with the well-known properties of an acrylic. BC Guard can be used for exposed waterproofing on non-walkable roofs, for waterproofing under tiles for example on a balcony and as well for waterproofing of vertical surfaces. It's an ideal product for waterproofing of new roofs as well as for their refurbishment as life cycle extension of an existing membrane. In addition it helps to enhance the energy efficiency of a house by reducing cooling costs, when applied in white colour, since it has a high solar reflectance.
Due to its seamless and easy application it is also the perfect solution for detailing work and repairing work on roofs, be it in combination with other roofing membranes like e.g. bituminous ones or on metal roofs, etc.

CHARACTERISTICS / ADVANTAGES:

- UV resistant and resistant to yellowing and weathering
- Highly elastic and crack-bridging
- Non-toxic and VOC compliant water based coating
- Single component - No mixing, easy and ready to use
- Cold applied- Requires no heat or flame
- Seamless membrane
- Easily recoated when needed - no stripping required
- Economic – provides a cost efficient life cycle extension of failing roofs
- Vapour permeable - Allows substrate to breathe
- Up to 12 months shelf life

REFERENCES:

To ensure the correct application of BC Guard systems please refer to the most recent issue of the following documents:

- PDS (Product Data Sheet)
- MSDS (Material and Safety Data Sheet)

If local regulations regarding external fire performance are existing, the valid performance of BC Guard systems may be checked.

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2- SYSTEM INFORMATION:

Packaging:

BC Guard is packed in 20kg metal can. High temperatures accelerate the process while greater thicknesses require maximu

Storage:

Store under dry shaded area in the original closed container

Shelf Life:

12 months from date of production if stored as recommended.

BC Fibermat Premium:

Glass fibre reinforcement for BC Guard Systems

Packaging:

1.3 x 128 m roll

BCI Flexitape 150:

A polyamide knitted reinforcement for use with BC Guard coatings which, unlike conventional scrims, is readily capable of stretching within the membrane to accommodate a high degree of thermal and structural movement.

Packaging:

150mm x 50 m roll

BC Primer 349:

A two-component, tough, solvent based amide curing primer. Suitable for use in hot and tropical climatic conditions.

Packaging:

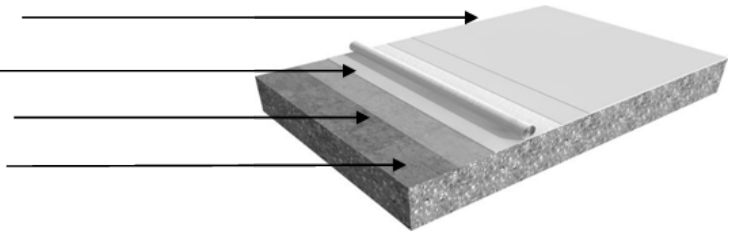
5.0 litres (~ 7.17 kg) containers
Part A: 2.5lt (~3.7 kg); Part B: 2.5lt (~3.47 kg)

Shelf Life:

12 months

1.1 SYSTEM BUILD - UP Reinforced Roof Waterproofing:

BC Guard top coat
Bc Fiber mat Premium
BC Flexi tape 150 1st coat Primer 349



For cost efficient waterproofing solutions in new construction and refurbishment projects. For projects with surfaces subject to probable movement.

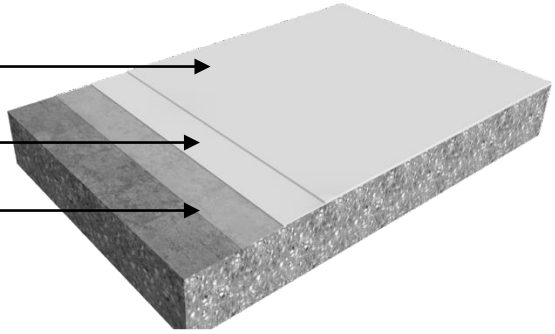
Build up:

BC Guard is applied in two coats, reinforced with BC Fiber mat Premium and sealed with one or more coats of BC Guard.
Substrate: Existing Flexi tape system.
Primer:BC Primer 349 Primer over existing tape . .
Total thickness: ~ 1.1 mm
Total consumption: >2.8 Kg/m2

Test compatibility before use - soft or volatile bituminous felts would normally need full reinforcement. Bituminous materials may also soften temporarily and could produce a slight stain.

Roof Coating

BC Guard 2nd coat,
BC Guard 1st coat
Primer if needed



For UV-stable coating, to extend life of existing structurally stable roofs

PROJECT CHECK:

- Check that the construction and substrate are in good condition.
- Check that the roof has adequate falls with 30 Minimum.
- Check that new concrete has cured for at least 28 days and has a pull off strength
- ≥ 1.5 N/mm2
- 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 °C above the dew point to reduce the risk of condensation. Condensation may affect adhesion and could affect appearance – see below.

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. Meair 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

2APPLICATION:

2.1SURFACE PREPARATION / PRIMER:

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.

Bituminous felt:

Ensure that bituminous felt is firmly adhered or mechanically fixed to the substrate. Bituminous felt should not contain any badly degraded areas. Power wash. Treat blisters by removal or star cutting and remove any underlying water and allow to dry. There are many types of bitumen felt with variable softening points and additives – Test compatibility before use - soft or volatile bituminous felts can stain and soften particularly on application. Darker colours will mask staining to some degree. Bituminous felt should be treated with a fully reinforced system however if not using fully reinforced system to treat adjacent areas use strips of BC Fiber mat Premium or BCI Flexi tape 150 in order to cover joints, connections or overlaps onto the felt.

Bituminous coatings:

Bituminous coatings should not have sticky or mobile surfaces, volatile mastic coatings, or old coal tar coatings. Remove loose or degraded coatings. Test compatibility before use – may need full reinforcement.

DISPOSAL:

Metals
Metals must be in sound condition.
Steelwork is ideally prepared to Sa2½ (Swedish Standard SIS 05 : 5900 = 2nd quality BS4232 = S.S.P.C. grade SP10) or as indicated by the blasting specification which may be of a higher standard.
Non-ferrous metals are prepared as follows. Remove any deposits of dust and oxidation and abrade to bright metal. Wire brushing can be used for soft metal such as lead. The surface must be clean and free from grease which, if present, must be removed with a proprietary solution. Wash with detergent, rinse and dry. Use a suitable primer BC Primer 349 and observe relevant application and over coating instructions. Adhesion test before full application

Substrate Priming:

Substrate	Primer	Consumption
Cementitious substrates	BC Guard diluted with 10% water.	~ 0.3
Brick and Stone	BC Guard diluted with 10% water.	~ 0.3
Ceramic tiles (unglazed),	BC Guard diluted with 10% water.	~ 0.3
Bituminous felt	Only required for high reflectivity applications (BC Primer 349)* Fully reinforced System only!	~ 0.2
Bituminous coatings	Only required for high reflectivity applications (BC Primer 349 Fully reinforced System only!	~ 0.2
Metals Ferrous or galvanised metals,lead, copper, aluminium, brass or stainless steel	BC Primer 349	~ 0.2
Wooden substrates	Timber based roof decks require a complete layer of BC Guard. For exposed timber upstands use BC Guard diluted with 10% water.	~ 0.3
Paints	Subject to adhesion and compatibility tests.	

BCI Primer 349 prevents migration of bituminous volatiles and improves long-term reflectivity
These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage etc.
For the Waiting Time /Over coating you should refer to the PDS of the appropriate cleaner and primer. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.

1.1Application Of BC Guard:

Prior the application of BC Guard the priming coat if used must have cured tack-free. For the waiting time
/overcoating please refer to the PDS of the appropriate primer. Damageable areas (handrails etc.) should be protected with tape or plastic wrapping.

4.2.1 REINFORCED ROOF WATERPROOFING:

Reinforced Roof Waterproofing: BC Guard is applied in combination with BC Fiber mat Premium.

Details:

1.Prepare the required pieces of BC Fiber net Premium for each particular Detail. Tear the fabric to overlap it rather than cutting it and ensure a good overlap of at least 5 cm
2.Apply first coat of approximately 1L/m2 (1.31Kg/m2) of BC Guard onto the detail. Work only so far in advance that the material stays liquid.
3.Embed the BC Fibermat Premium and roll it into the wet material. The treated details must be left to dry and tack free before the horizontal area can be applied.

Horizontal Surface:

4.Apply first coat of approximately 1L/m2 (1.31Kg/m2) of BC Guard. Work only so far in advance that the material stays liquid.

5.Roll in the BC Fiber mat premium and push into the wet liquid and ensure full saturation. Overlapping of the BC Fiber mat Premium a minimum 5 cm and ensure overlaps are sufficiently wet to bond. The roller may require only a little extra material to keep wetted but no further significant material needs to be added at this stage. The surface of the reinforcement should look wet and fully sealed

6. Before applying the second coat, check for upstanding BC Fiber mat fibres. These fibres have to be eliminated by using sandpaper. Make sure that all upstanding fibres are abraded.

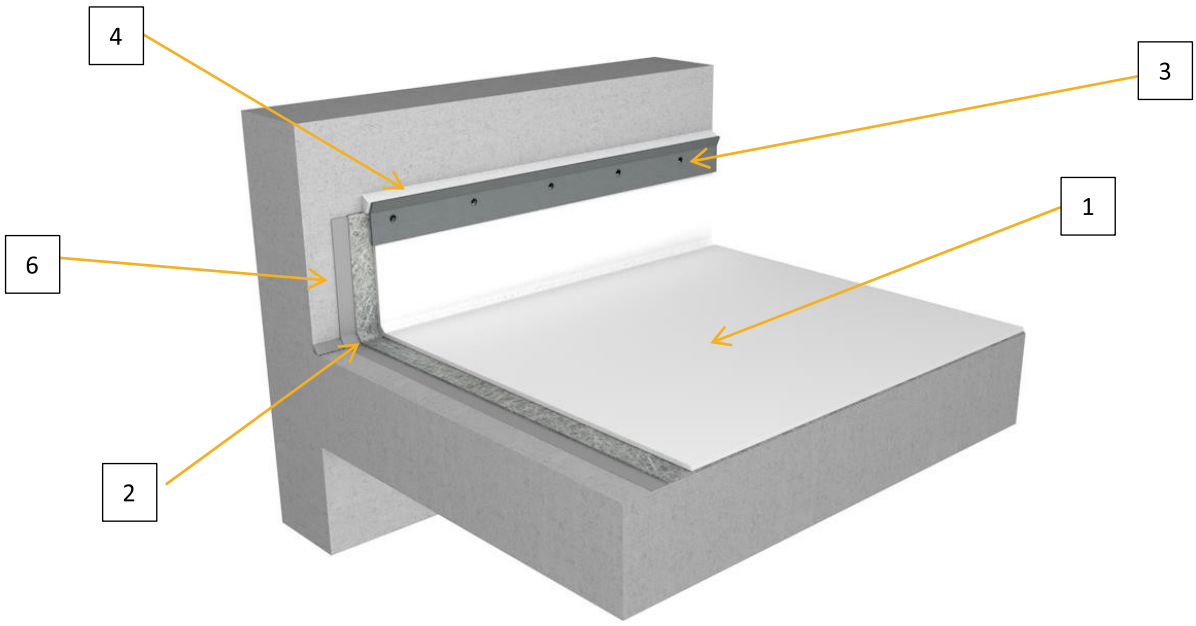
7. After the coat is dry, apply a second coat of BC Guard at a minimum 0.53L/m² (0.75Kg/m2).

8. After the second coat is dry apply a final coat of BC Guard at a minimum 0.53L/m² (0.75Kg/m2.

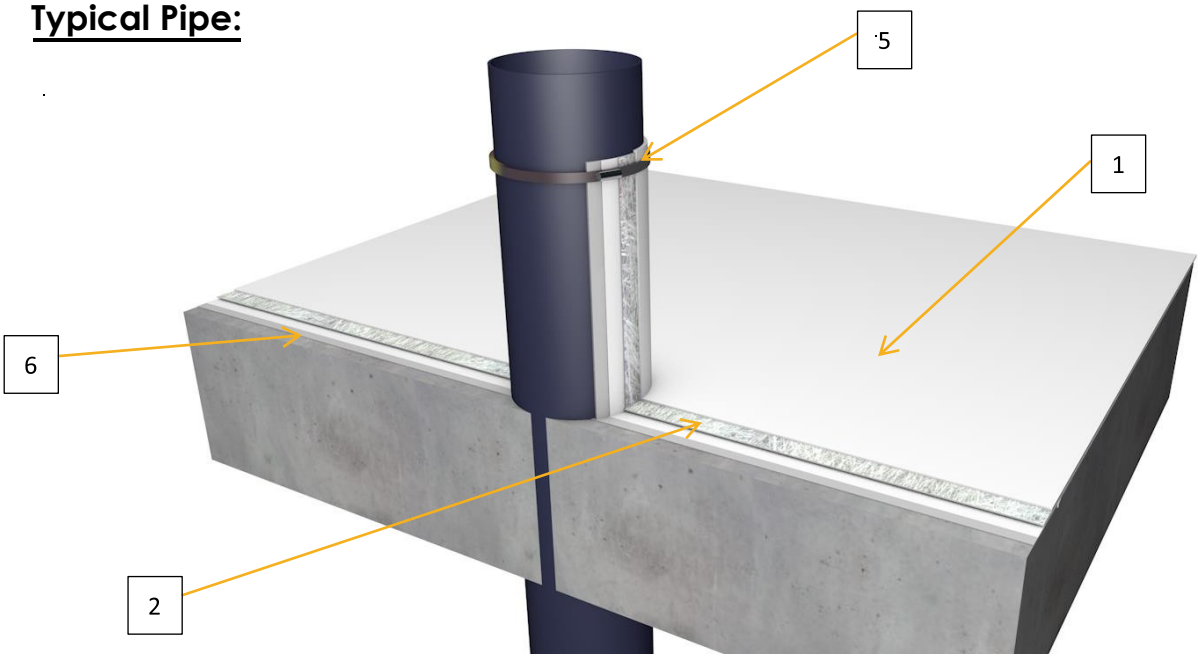
1.1JOINT DETAILS FOR BOTH COATING AND REINFORCED SYSTEMS:

Where necessary, materials should be cut with a knife or scissors. Apply a full coat of the BC Guard coating as required, approximately 33% wider than the tape and whilst wet, insert BC Flexi tape Heavy into the wet membrane by gentle pressure from a loaded brush, thus applying further material until the tape is obliterated. Allow to dry before continuing with the top coats. Embed BCI Flexitape into the wet membrane without tension or stretching of the tape. Lay the tape as naturally as possible, direct from the roll, inner face upwards in order to avoid edge curl. A bond break tape should be applied directly above the joint, on the metal substrate, to minimise the bond of the BC Guard coating.

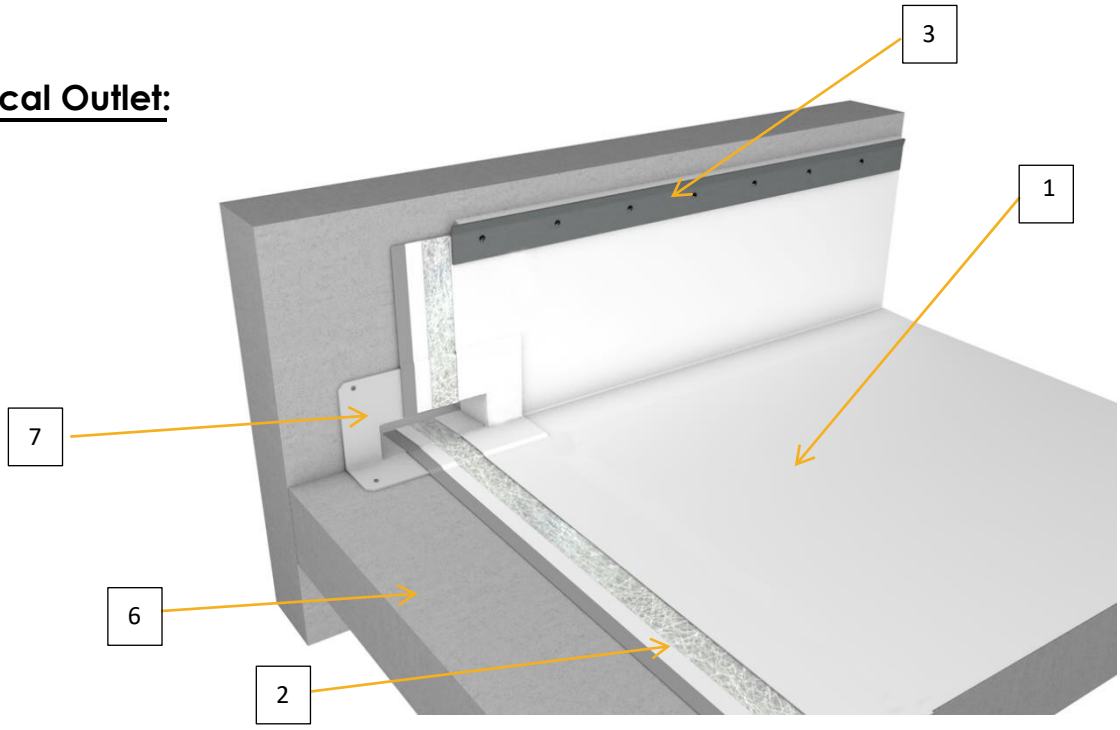
DETAILS Typical Upstand:



Typical Pipe:



Typical Outlet:



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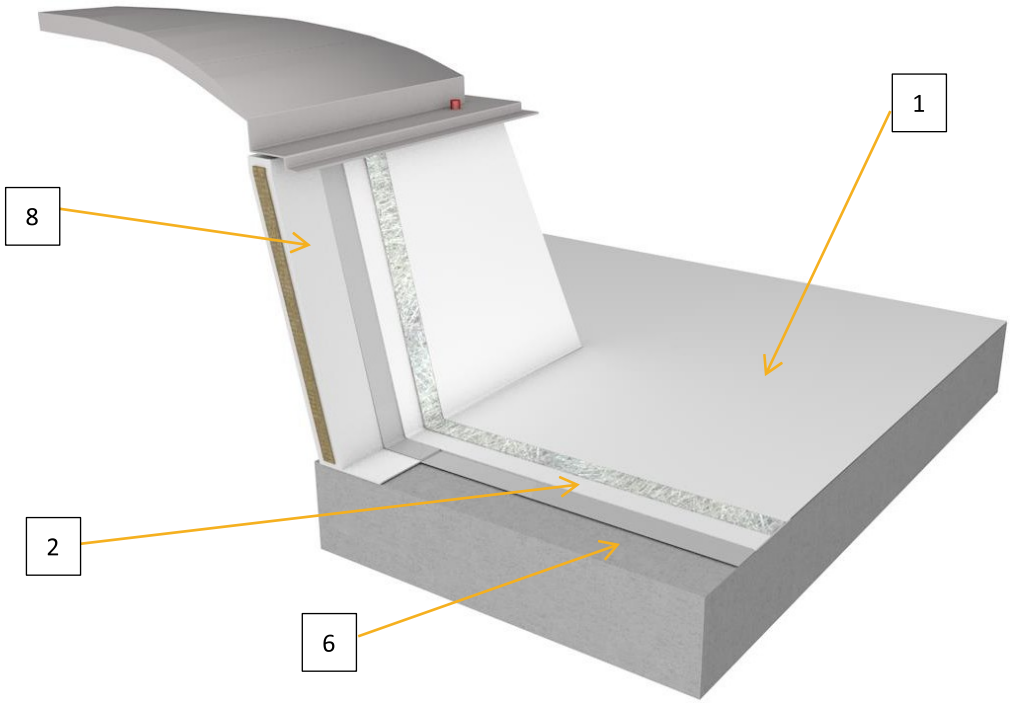
Typical Skylight:



Top Coat(s):

1.Base Coat embedded with BC Fibermat
2.Aluminium Flashing
3.BC Construction+
4.Stainless Steel Jubilee Clip
5.Primed Substrate
6.Outlet
7.Skylight

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 Resistant2	Full cure
+20°C/50% r.h	~ 24 hours	~ 8 hours	~ 4 days	
+30°C/50% r.h	~ 12 hours	~ 4 hours	~ 2 days	

5EQUIPMENT:

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

6DISPOSAL:

Disposal of emptied tins of BC Guard .

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.

7Limitations:

Do not apply BC Guard 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 Guard is totally dry and the surface is without pinholes before applying any top coat.
Do not allow temporary ponding to remain between coats on any horizontal surfaces or until the final coating has totally cured. Brush or mop surface water away during this time.
BC Guard should not be applied on roofs subject to long-term ponding water.
BC Guard should not be applied on roofs subject to ponding water with subsequent periods of frost. In cold climatic zones for Roofing structures with a pitch of less than 3% appropriate measures must have to be considered.
BC Guard applied on roofs subject to long-term freezing at temperature around the minimum service temperature of -10°C should always be reinforced with BC Fiber matt Premium in order to guarantee sufficient crack- bridging ability.
Do not apply BC Guard directly on insulation boards. Instead use a separation layer like BC -Carrier between insulation board and BC Guard.
BC Fibermat Premium can be used as total reinforcement or for partial reinforcements over dynamic cracks and joints.
BC Guard is not recommended for pedestrian traffic. In case pedestrian traffic is unavoidable, BC Guard shall be covered with appropriate elements such as tiles, stone plates or wooden panels.
Do not apply cementitious products (e.g. tile mortar) directly onto BC Guard. Use an alkaline barrier, for example kiln dried quartz sand.

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 replacementfor 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.