Method statement for BC 690H polyurea application over cement board structures

Purpose

To establish a method for the correct application of BC690H polyurea waterproofing on terrace cement board walkways, ensuring long-term performance and durability.

Scope of works

Removal of existing old water proofing to the core of cement board and cleaning
Joints between cement boards can be closed with BC poxy putty 2000 surfacer and reinforced with fiber mesh for monolithic joint before application BC 690H water proofing
Apply one full coat of BC Poxy primer 349 with covered slope
Application of BC 690H polyurea membrane
Application BC poxy Grout 252 with adequate slope
Installation of wooden tiles

Materials and Equipment

Materials:

BC 690H Polyurea coating (two-component system)
BC Poxy promer 349 (Epoxy primer)
Cement board (clean and free of defects)
BC tec 30S Joint sealant
Non-slip aggregate (optional, for walkways)

Tools and Equipment:

High-pressure spray machine (plural component)
Surface grinder or sander
Moisture meter
Tape and masking materials
Rollers and brushes for primer application

Surface Preparation

Cleaning:

Ensure the cement board is clean, dry, and free from dust, grease, or contaminants. Use industrial cleaners if necessary.

Remove any laitance or loosely adhered materials using a grinder or sander.

Moisture Check:

Measure the surface moisture using a moisture meter. The moisture content should typically be less than 5%.

Joint Treatment:

Seal all joints between cement boards with a polyurethane or silicone sealant. Allow adequate curing time as per manufacturer guidelines.

Masking:

Use tape to mask adjacent areas to prevent overspray.

Priming

Epoxy Primer Application:

Apply a suitable epoxy primer evenly using a roller or brush. This enhances adhesion between the cement board and the polyurea layer.

Allow the primer to cure as per the manufacturer’s recommendations (typically 4–hours).

BC 690 H Polyurea Application

Mixing and Preparation:

Use a plural-component spray machine to mix and spray the polyurea coating. Follow the manufacturer's specified mix ratio and temperature requirements.

Spraying Polyurea:

Apply the first coat of polyurea evenly across the surface at the recommended thickness (typically 1.5–2 mm).

Allow the first coat to set (a few minutes, depending on the product and ambient temperature).

Second Coat:

If required, apply a second coat to achieve the desired thickness or to embed non-slip aggregates for walkways.

Curing:

Allow the polyurea to cure fully before allowing foot traffic. Curing time varies depending on product specifications but generally ranges from 24–48 hours.

Inspection and Quality Assurance

Visual Inspection:

Ensure a uniform finish with no pinholes, bubbles, or blisters.

Water Ponding Test (if applicable):

After curing, conduct a ponding test to confirm waterproofing performance.

Safety Precautions

Ensure adequate ventilation during application.

Wear appropriate PPE (respirators, gloves, goggles, etc.).

Follow the manufacturer's safety data sheet (SDS) for handling materials.

Maintenance

Inspect the walkway periodically for damage or wear.

Perform any necessary repairs promptly to maintain the waterproofing integrity.

Would you like me to customize this statement further for specific site conditions or product recommendations?

Description of Works

Objectives

The objective of this method statement of Polyurea Application for cement structures is to outline the materials and labor required to undertake the works in a safe and controlled manner, compiling with relevant legislation, standards and codes of practice, etc.

This method statement shall be briefed to all appropriate operatives to ensure that they are aware of the sequence of activities and any Client/Consultant project specific requirements.

Team BCI – Meeting and brief (Safety first)

BUILDING
CHEMISTRY
INDUSTRY

Surface preparation

BC Repair 100

Surface imperfections , damages , pathholes are repaired and levelled with BC repair 100 to make the surface evan and smooth in nature

BC Epoxy primer 349

A constant monitoring and supervision duty shall be undertaken by main contractor to ensure work activities are carried out in accordance with the method statement. Any irregularities shall be immediately actioned.

This method statement describes the working procedures for Polyurea for waterproofing and all related activities. This will include surface preparation and application.

Definitions

XXXXXXXXXX	Company /Client
XXXXXXXXXX	Project Management
XXXXXXXXXX	Supervising Consultant
XXXXXXXXXX	Main Contractor
APC	Sub-Contractor
PM	Project Manager
SE	Site Engineer
QC	Quality Control Engineer
SF	Site Foreman
HSE Officer	Health, Safety & Environmental Officer
GIS	Geographical Information System
PS	Project Specifications
CEMP	Construction Environmental Management Plan
QCP	Quality Control Plan
HSE Plan	Health, Safety and Environmental Plan

Responsibilities

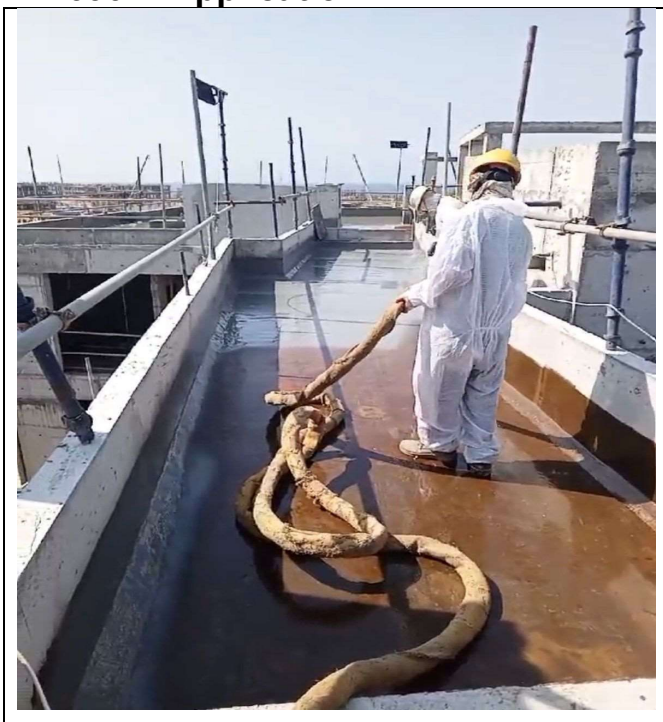
Project Manager

- Supervise closely the activities designated to them and ensure that all instructions and safety procedures are followed and strictly adhered to.
- Supervise the work to ensure that technical, quality, safety and purchase order requirements are met.
- Attend daily site meeting and communicate his daily report with the Project/Site Engineer.
- Participate in training and development of his subordinates.
- Organize with the Project/Site Engineer to ensure the availability of plant, equipment, and labor to his designated work activities.
- Closely monitor the usage of consumable and materials by his crew in order to minimize wastage.
- Assess craftsmanship of subordinate under his control.

Construction Manager

- Carry out pre-construction survey to fix the locations and corresponding elevations as per the approved shop drawings.
- Ensure the quality and compliance during phases of surveying works and the regular checking of the surveying equipment or periodic calibration from third party.
- Ensure validity and serial number of calibration certificates is available and posted in the survey equipment.
- Ensure proper safety guarding of survey equipment.
- To maintain the records of all surveying equipment handled.

BC 690 H Application



Site Engineer

- Supervise operations in accordance with the approved method statement for waterproofing, shop drawings, specifications, material submittals and schedules to achieve the acceptance of the project deliverables.

Site Supervisor

- Supervise closely, the activities designated to them and resume that all instructions and safety procedure are followed and adhered to.
- Supervise the work to ensure that technical, quality safety and purchase order requirements are met.
- Attend daily site meeting and communicate his daily report with the Project/Site Engineer.
- Participate in training and development of his subordinates.
- Organize with the Project/Site Engineer to ensure the availability of plant, equipment and labor to his designated work activities.
- Closely monitor the usage of consumable and materials by his crew in order to minimize wastage.
- Assess craftsmanship of subordinates under his control.

HSE Engineer

- Ensure enforcement of safety procedures in accordance with the approved HSE Plan.
- Will be closely monitoring the site engineer's strict implementation of the MS and Risk Assessment, the use of proper tools and equipment to maintain safety, certifications of equipment and their adherence to safety regulations.
- Reporting of any unsafe work or stopping work that does not comply with ES&H procedures.

First Aider

- The first aider respond promptly when requested, operate with competence, know how to secure additional help when needed.
- Reports incidents and actions taken and comply with requirements for certification.

Banks-man

- The role of a banks-man is to provide additional eyes and ears to assist the operator of the equipment to navigate or operate safely.

Lifting Competent Person

- The role of the Lifting Competent Person is to ensure compliance to safe practice for the loading and unloading of equipment and materials on site.

Resources

Plant and Equipment

Sn	Description	Qty	Model	Utilization
1.	Graco Polyurea Machine	3	EXP2	1 year
2.	Graco Reactor, Polyurethane Machine	12	2 EP30	1 year
3.	Heater Hose (240 bar), 15cm with Scuff Guard	22	E-XP2, 240	3 years
4.	Whip Hose (240 bar), 3m with Scuff Guard	8	E-XP2, 240	9 months
5.	Fusion Gun AP	16	Fusion	7 months
6.	Transfer Pump	24	T2 Pump	2 years
7.	Air Supply and Fusion Gun	24	Kit for Pumps	4 years
8.	Transformer	16	75 KWA	1 year

9.	Air Compressor 500 liter / 7.5 Hp	16	Euromatic	1 year
10.	Air Compressor 300 liter / 7.5 Hp	6	Euromatic	2 years
11.	Truck Box Type 5 ton	20	Isuzu	5 years
12.	Pickup Double Cabin 1.5 ton	24	Isuzu	3 years
13.	Pickup Single Cabin 1.5 ton	12	Isuzu	2 years
14.	Bus 14 Seater	4	Toyota	2 years
15.	Bus 30 Seater	2	Toyota	1 year
16.	Truck 5 ton	20	Isuzu	4 years
17.	Fork Lift 5 ton	4	Caterpillar	5 years

Work Force

Sn	Designation	Nos.
1.	Administration	22
2.	Operation Manager	1
3.	Project Manager	1
4.	QA/QC Inspector	5
5.	Quantity Surveyor	1
6.	HSE Officer	5
7.	Supervisor	20
8.	Foreman	20
9.	Sand Blaster	17
10.	Spray Painter	21
11.	Mechanic	12
12.	Electrician	10
13.	Mason	20
14.	Carpenter	15
15.	Driver	18
16.	Helper	80
	Total	**268**

Site Planning

Preparation

- Permits from the concerned authority shall be obtained prior to start work at the site.
- The contractor shall ensure that all gate passes, permits, tools, materials for safety precautions, manpower are available before the commencement of work.
- The Site Team shall make sure that access roads are always clear from any obstruction and site is always accessible.

Site Clearance

- Before commencing the work, the area shall be cleaned of all debris, materials, or other obstructions.

Traffic Management

- The Site Team with the assistance of the Safety Officers shall coordinate logistics and materials movement through site following the direction and road signs displayed on site. The required diversion routes shall be marked on drawings including the required traffic signs.
- The Work Permits and Operator Certificates shall be compiled and files for reference by authorized personnel.

Pre-Construction Safety Meetings

- The meeting shall be scheduled prior to the beginning of the work and before any Subcontractor starts on the project.
- General contractual safety, health and environmental requirements.
- Depending upon the phase of waterproofing works, safety concerning to electrical, working at height, working with chemicals etc, shall be discussed to emphasize these meetings.
- Roles of the contractor, subcontractors, authority representatives, and all project workers.
- Accident reporting requirements.
- Specific details of the work to be performed along with the use of personal equipment.
- Emergency procedure.

Procedure – Method Statement for Waterproofing System

Product Delivery, Storage and Handling

- Deliver materials etc, the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's label, brand name, and installation instructions intact and legible. Comply with the manufacturer's written instructions for proper material storage.
- Storage materials except for membrane, between 15°C and 27°C in air-conditioned space (container) protected from water and direct sunlight.
- Store materials containing solvents in dry, well-ventilated spaces with proper fire and safety precautions. Keep lids on tight.
- Material inspection shall be carried out for all permanent materials. Any materials, which are found to be damaged, shall be removed and replaced.

General Work Condition

- Schedule and execute work in accordance with site construction program and with site conditions.
- Do not disrupt activities in occupied spaces.

Temporary Facilities and Controls

- Water power for construction purposes and lighting should be available at the site and should be made available when required.
- When available, electrical power should be extended as required from the source, provide all trailers connections and fused disconnects.
- Sanitary facilities should be available at the job site.

Materials

- As per system guide described above

Surface Preparation

- Conduct visual inspection for any defects prior to the coating.
- All metal roof area must be properly clean and free from dust, oil, grease must be removed with proprietary solution. By air compressor, blowers, washing with detergents, rinse. Must be in sound condition and any deposition of dust and oxidation and abrade to bright metal wire brushing must be used of primer dry.
- Grinding of metal roof shall be prepared.

- Scaffolding/formworks should be provided by client in high elevated area.

Filling of Surface Irregularities

- Metal irregularities must be ground down or filled out with repair (silicon) materials.
- Prepare the metal roof using the chosen method, removing all weak or friable laitance.

Priming

Mixing:-

- Stir the base and hardener separately.
- If settling is observed in the base or hardener, loosen the settled material with the help of hand stirrer followed by power driven stirrer for quick homogenous mixing.
- Mix hardener gradually into the base under continuous stirring as per stated mixing ratio.
- Apply after induction time and before expiration of pot life.

Application:-

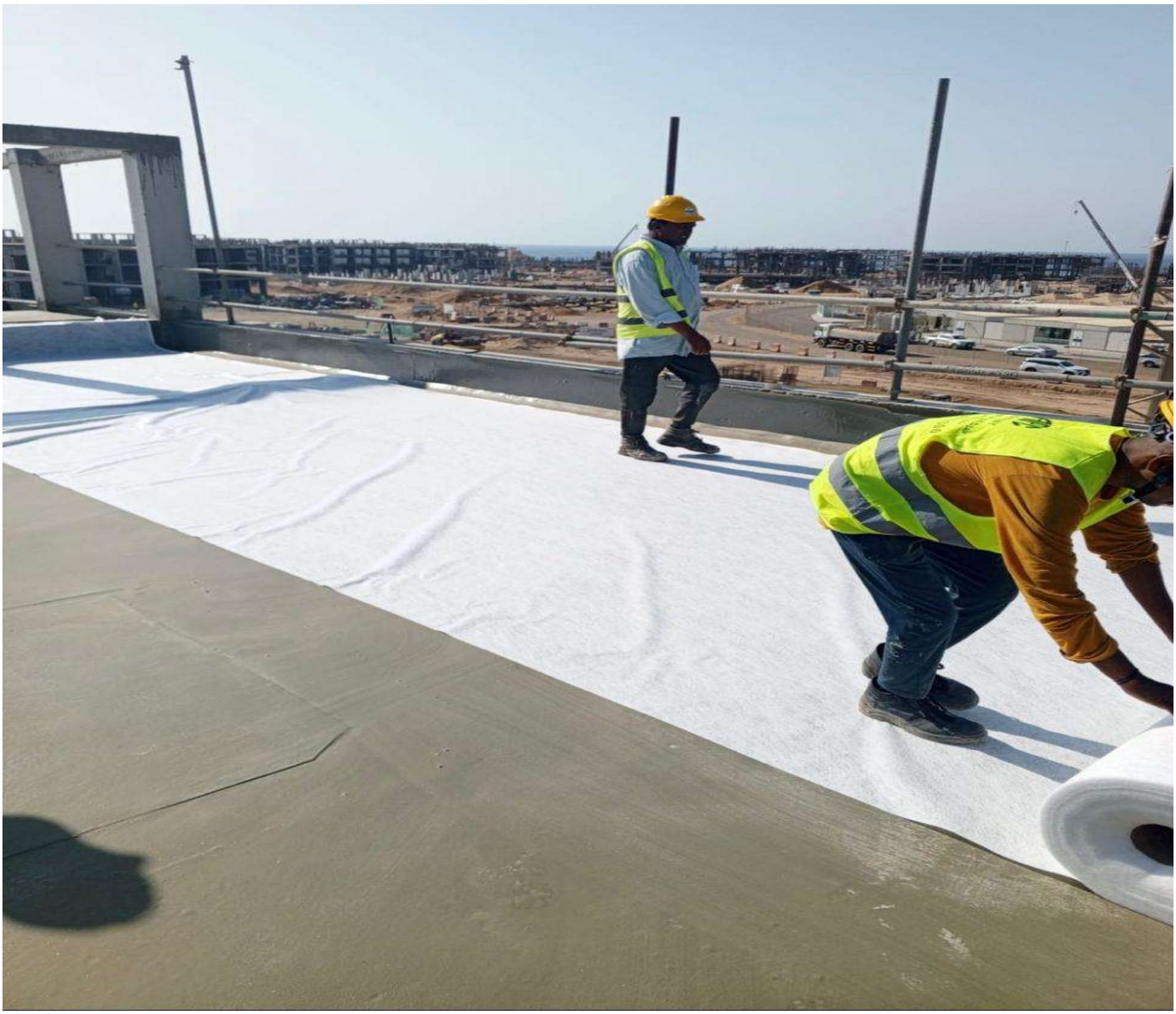
- Mix the A and B components of together until it is free of streaks.
- Apply the Primer to the metal roof, using a medium pile roller depending on the absorption of the substrate.
- Dry/matt areas must be re-primed.
- The coverage would vary significantly based on the nature of the metal surface.
- On porous surface where the primer is absorbed quickly leaving dry patches, a second coat is recommended.

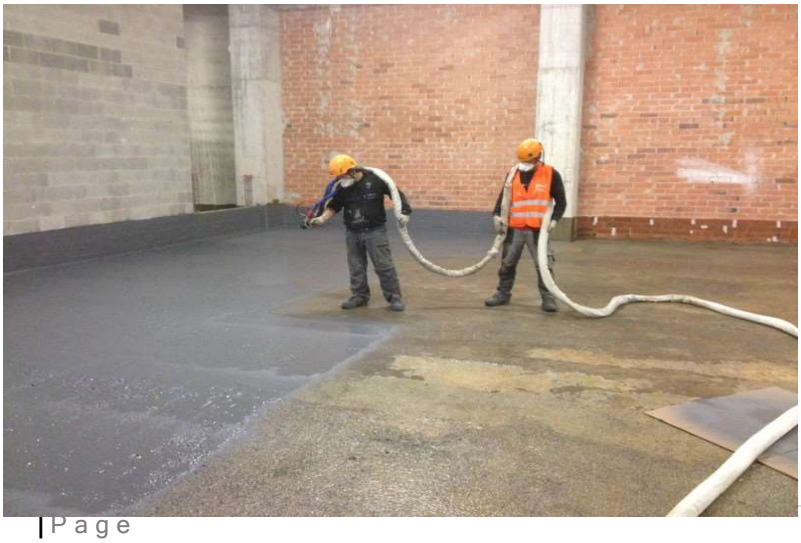
Antiskid Application:-

- A non-slip surface can be achieved by broadcasting approx. 1kg/m2 of Non-slip aggregate (Medium) to the primer whilst still wet.
- Primer application should be dry for at least 4 hours prior to commencing of Polyurea application.

Polyurea Application

- Upon completion of Primer and Antiskid application, Polyurea system application shall commence where a combination of Component-A & Component-B is sprayed onto the prepared up to a thickness of 3mm, using evolution combination equipment.
- Apply Polyurea at a consistent rate using a standard crosshatch spray pattern, with a minimum of 2 alternate directional passes for complete coverage, at the required application coverage total wet film thickness of 3mm to the horizontal & vertical surface of areas.
- Allow the applied Polyurea coating to dry for minimum curing period of 72 hours.





Plural Component Hot Spray Equipment standalone unit

BC 690 H Polyol and BC 6354 Isocyanate System images

Risk Assessment

	IMPACT				
LIKELIHOOD	**Neglible**	**Minor**	**Moderate**	**Significant**	**Severe**
Very Likely	Low Med	Medium	Med Hi	High	High
Likely	Low	Low Med	Medium	Med Hi	High
Possible	Low	Low Med	Medium	Med Hi	Med Hi
Unlikely	Low	Low Med	Low Med	Medium	Med Hi
Very Unlikely	Low	Low	Low Med	Medium	Medium

5 Pre-Start Safety Briefing Arrangements

Protective and Safety Equipment

All workers involved shall be equipped with adequate PPE as stated below:

- Safety Helmet with Company Logo
- Safety Boots
- High Visibility Vest
- Safety Goggles
- Hand Gloves
- Coveralls

Information to Personnel

- Safety Induction
- Job Training
- Superintendents Notices/Memos
- Toolbox Talks
- Start Card

Special Safety Requirements

- All necessary personal/protective equipment (PPE).
- Banks-man, wearing distinctive vests shall be assigned to help operators maneuver their equipment.
- The equipment operators shall possess the required licenses and certificates.
- Generated dust shall be controlled by periodic water spraying.
- The required TSTI will be prepared prior to commencement of work and positively implemented.
- The project safety officer is responsible along with the project zone site engineer for ensuring that all operations are carried out with due regard to the safety of all project personnel & property.
- All working activity shall comply with Client Safety Procedure.
- First aid material.
- General management of protection/operation hazards are to be observed.
- Emergency Procedures.

6 Supervision and Monitoring Arrangements for Waterproofing Work

Construction Manager

- He is in charge of all construction activities. Schedule the project in logical steps and budget time required to meet deadlines. Inspect and review projects to monitor compliance with building and safety codes and other regulations.

Temporary Works Construction Manager

- To support the project delivery teams, to support and lead the management and delivery of temporary works engineering whilst ensuring program, cost, quality, and safety objectives are achieved.

Site Engineer

- The Site Engineer shall evaluates the number of materials consumed by each trade to be compared against the planned quantity.

- A construction Foreman is responsible for supervising the workers and also doing actual construction work. The foreman monitors employees to ensure that the work is done efficiently and within quality standards.

Chief Surveyor

- A Chief Surveyor ensures that surveying data are collected and recorded accurately and that all company procedures are followed by crew members.

QA/QC Engineer

- The QA/QC Engineer shall monitor whether the installation works are conforming to the required quality otherwise he shall notify the Site Engineer should he found non-conformance to the ongoing activities. The Site Engineer shall immediately rectify the work to avoid receipt of NCR from the QA/QC Engineer.

HSE Engineer

- The Safety Engineer shall be full time at the site and shall frequently visit all the ongoing works at the site. All safety violations and on-conformance of the HSE Plan shall be registered and immediate action shall be done in coordination with the Site Engineer.

Lifting Competent Person

- The role of the Lifting Competent Person is to ensure compliance to safe practice for the loading and unloading of equipment and materials on site.

7 Environment and Quality Issues

Precautionary Measure

- All precautionary measures shall be briefed to all workers prior to commence activity.

Disposal Requirements

- All waste shall be disposed as per the Construction and Environmental Management Plan and as per Government approved disposal areas.

Inspection, Test and Sampling

- Request for Inspection and Testing will be submitted prior to and after the execution of works.
- A mock-up sample shall be provided on-site for approval prior to the execution of works where required.

Quality Assurance Requirements

- Project specifications