BUILDING CHEMISTRY INDUSTRY

Building chemistry Industry , Dammam ,
Kingdom of Saudi Arabia

Method Statement For

BC 8462 50 Polyol
BC 768 Isocyanate

System description

Two component spray applied polyurethane foam BC 8462 Spray 50

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1. Scope of Work

This method of statement is for Plural component spray application of BC 701 Spray 15 polyurethane foam and related top coat application and describes the procedures intended to adopt for all associated works with this contract package.

2. Access/Egress

The Access/Egress to the site for the easy movement of workmen, material and equipment will be carried out in a safe manner. Any obstacle shall be properly cleared either manually or employing suitable mechanical equipment. The access to the trenches should be as per project safety procedures.

3. Lighting

3.1 Safety Lighting

Customer will provide Safety lighting at the entry point/s of the project as such adequate to the basic security of the site premises or in accordance with the project requirements.

3.2 Task Lighting

Tower light or portable light is use in the dark or in reduced visibility, lights will befitted and used to enable the work area to be adequately illuminated. In addition, amber flashing beacons that give warning of the presence of the vehicle will be fittedand used if necessary.

3.3 General

Generally, if otherwise required Tamimi PEB will provide adequate lighting facilitywherever there is a necessity for the lighting for the safety of its employees, material,equipment or any other asset of Tamimi PEB or Client.

4. Plant & Equipment

4.1 Plant & Equipment Schedule

Plant and Equipment

Sn	Description	Qty	Model	Utilization
2.	Graco Reactor, Polyurethane Machine	12	Graco EP - 30	**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**

4.2 Personnel Protective Equipment(PPE)

Safety Helmet
Clear Goggles
Black Goggles
Coverall
Safety vest
Safety Shoe
Hand Gloves
Face Shield (Where required)

4.3 Manpower

Foreman/Supervisor
Site Engineer
QC
Plumbers
Labors (As Required)
Flagman's (As Required)
Operators (As Required)
Masons (As Required)

5. Materials

Surface preparation tools like grinding wheels , cleaning tools
BC 8462 Spray 50 polyol (Foam component B)
BC 768 Isocyanate (Foam component a)

6. Sequence/Method of work:

Delivery of Material using Dyna Truck

- Before any delivery of materials to site, the supervisor with his crew will prepare the area of storage to receive the material at the lay down area. Number of containers , packing size and total quantity , drum condition , labelling and documents etc shall be verified .
- The supplier shall inform the site at least two (2) days before the delivery date to have sufficient time on securing relevant work permit and gate passes required.
- If the delivery vehicle is from the supplier, it must be checked to ensure that it is conforming to the requirement of the project using the approved vehicle/equipment checklist. Driver of the delivery vehicle must be of complete PPE while he is in the jobsite.
- The delivery vehicle shall be escorted by SUBCONTRACTOR representative from gate to laydown area and vice versa.
- Upon arrival of the material, the driver will hand over the delivery receipt to the warehouse supervisor who will check the document that includes the following:
- .After completion of unloading and material inspection, the materials shall be covered with tarpaulin or blue sheets to protect from exposure to weather.
- The materials delivered have been checked and they are correct as per the approvedmaterial submittal

Material Receiving by Manual Handling

- The delivery materials will receive by workforce manually as all of materials are not too heavy.
- Each shipment should be inventoried and inspected upon arrival.
- It is the carrier's responsibility to deliver the shipment in good condition, and it is the receiver's responsibility to ensure that there has been no loss or damage.

Program

- Approved schedule will be followed for the duration of project
- Permits from concerned Client authority.
- Wear all necessary protective equipments like safety helment , hand gloves , cover all and masks etc before starting any activity including surface preparation Start surface preparation as approved by site incharge
- Degree of surface preparation shall be verified and approved by customer ‘s representative for the project
- Start the compressor and heat the reactor 70 Dec temperature while developing required application pressure

System guide
Surface preparation
Power tool cleaning / Hand tool cleaning
BC8462 Spray 50 Application
Application Equipment Graco E20
Apply one or two coats BC 8462 Spray50 through heated plural component spray equipment to form a seamless protective cover

7. Risks and Controls

7.1 Hazards/risks

Risk Assessment (See appendix)

7.2 Control measures/permits

Permit to work shall in place prior to any work issued by Tamimi Permit authorizer and must be communicated to workers, operators & staff.

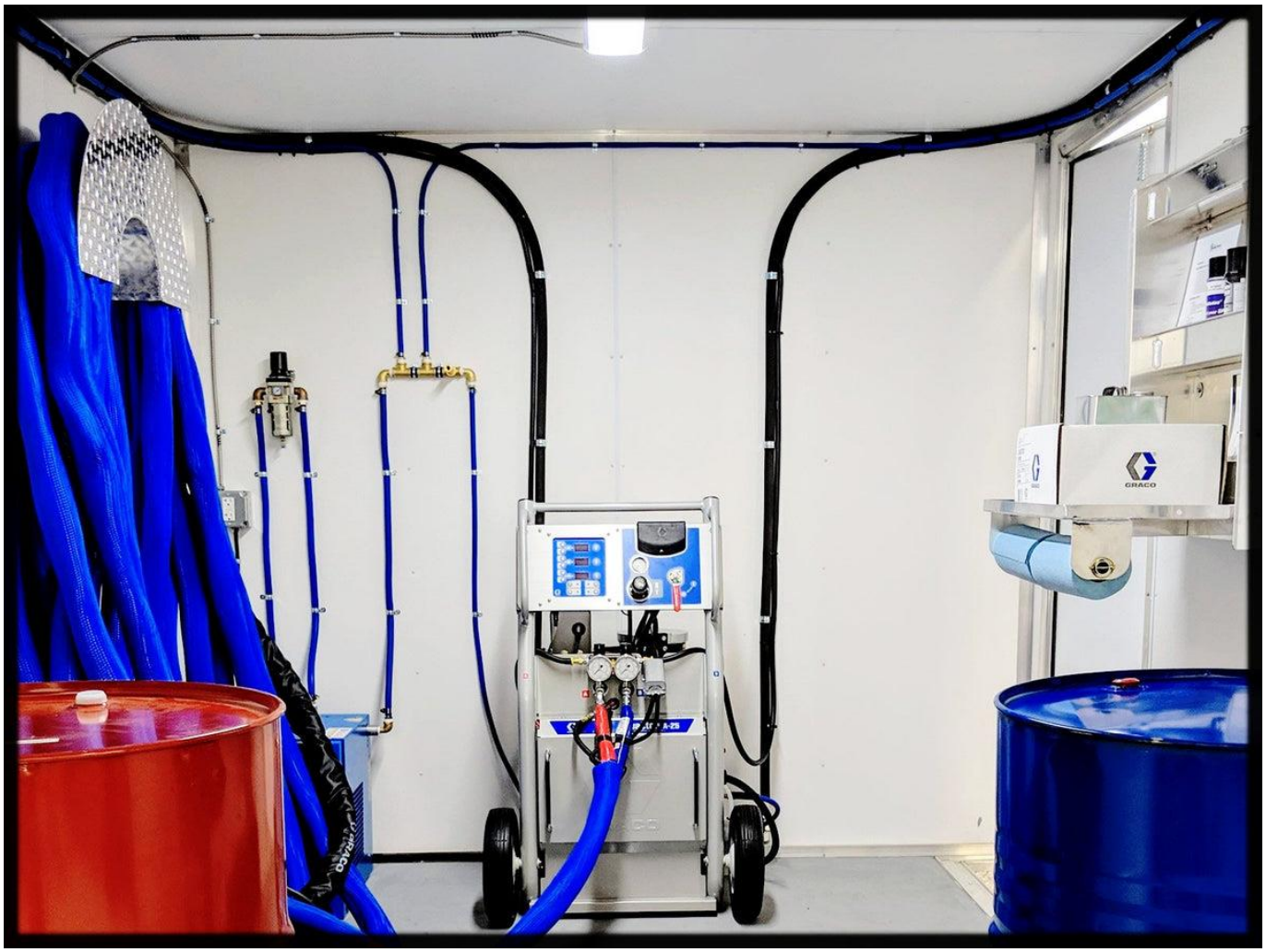
7.3 Third party protection

Obtain third party inspection for equipment and operator if necessary as per Guidelines in Table 1. Plant and Equipment - Training, Licensing, and Certification Requirements.

7.4 Environmental considerations and sustainability

A. Waste Management

- Waste shall be controlled and managed at all times
- Waste shall be transferred by appropriately registered carriers and only removed to licensed sites
- Wastes shall be kept in a secure manner, suitably contained and labeled
- Hazardous wastes shall be kept separately and securely labeled containers for the task and disposed of in accordance with the Hazardous Waste Regulations



B. Waste minimization

BCI shall endeavor to minimize waste streams in line with the principles of the waste hierarchy

- Avoidance of waste at source
- Reduction of waste volumes
- Re-use of uncontaminated spoil within the works
- Arrange for recycling of the waste
- Disposal as a last option

C. Operations of vehicles and plant

To ensure minimal impact from the operation of vehicles and plant, operators shall give due regard and implement the following

- Minimize route and journey mileage to and from and around site
- Prevent nuisance to the community caused by parking, spoil from vehicle movements, noise and access restrictions
- Ensure prevention of spillage of spoil, fuels, coolants, hydraulic oils and other vehicle fuels
- Maintain vehicles
- Ensure all vehicles and machinery are turned off when not in use
- Ensure suitable control for the means of access and egress to public highway

D. Noise and nuisance

Care shall be taken to ensure good image and relations with the local community by the following

- The use of offensive language, behavior and or discourtesy to the public prohibited
- Excessive noise from plant, equipment, vehicles and employees being monitored
- Strict compliance with noise and working hour restrictions
- Excessive emissions of dust, fumes and odors
- we will ensure a high standard of housekeeping and litter control on allsites at all times

F. Air Quality

- Any black smoke / unsightly emissions from vehicles and other equipment must be reported.
- Tamimi shall ensure that smoking is only permitted in designated areas.
- All material stockpiles to be adequately covered to prevent loss of material through wind erosion as well as dust lift.
- Where possible, avoid simultaneous instances of side-by-side material handling to prevent excessive generation of nuisance dust.

7.5 General

Personal Protective Equipment and selection refer to Employer Requirement (AML-DEV-H&S-GLE-0014 Personal Protective Equipment) for minimum requirements for selection, use and maintenance of PPE.

7.6 Communication and Fire Precautions

- Ensure fire extinguishers, type ABC dry chemical, are provided in all active work areas. Units shall be sized and spaced according to work activity occurring, quantities of combustible and flammable materials in the work area, and level of potential for fires.

- Ensure temporary enclosures are equipped with a minimum of one fire extinguisher suitable for all classes of fires that are expected inside the enclosure

8. Training

- All on site must complete customer site safety induction.

- Toolbox meeting must be conducted prior to commence the activity.
- Provide awareness training for the new employee for (tools, equipment and etc.) and discuss a wide variety of hazards that new workers can encounter while performing different types of tasks, and explains what they need to do to avoid those hazards.
- Working at height training.

9. Supervision

- Works to be supervised by SK site management.
- The Site Supervisor manages and assesses any potential safety hazards on site and looks at eliminating them. Conduct a regular site inspection and provide a safety program.
- Ensure that a project is seen through and completed safely.

10. Supervisor

- To ensure that the approved reparation methodology is well executed by all of the team.
- Safety of the Manpower should always be promoted in all the duration of work daily to avoid any kind of accidents.

A. Foreman

- To ensure the high level of workmanship. To ensure that the preparation methodology adopted by the Supervisor involved is well executed.
- To ensure the availability and the quality of the tools and product use by the team.
- The provision to his responsible Supervisor in charge the adequate information for works performance.
- The provision to his responsible Supervisor the daily report illustrating work progress / reparation methodology applied / resources / manpower / completed work.
- Manage the equipment's in the working zone in a safe way.

B. QC Inspector

- Inspect and conform the quality and test report of the required backfilling materials.
- Witness placement, compaction and compaction test.
- Responsible for random inspection required during the execution
- Responsible for the witness testing approval and records.
- Responsible for arranging third parties required for testing at site whenever needed.

C. Safety Officer

- Ensure that work is performed according to the safety instruction and precautions specified in the work permit.
- Ensure that barricades and warning tapes are erected where required and safety equipment is readily available at the site.

D. Work Permit Receiver

- Submit the activity permit request.
- Must abide by the instructions provided in the activity permit.
- Responsible for obtaining work permits required for the daily job andmaintain the record as per project requirements.

11. Working Hours

SK generally have an 8 hour working schedule. However, working hours maybe extended by the Project In charge which is paid in accordance with the Saudi labor laws. Usually breaks are considered as per project requirements and Saudi labor laws.

12. Housekeeping

- All rubbish and debris must be cleared from the work site on a daily basis in progresswith the work.
- No excess rubbish or debris will be permitted to be left onsite at the end of theworking shift.
- Sufficient bins must be available for the Contractor at each work face to cope withdebris generated.
- Bins must be emptied/changed immediately when full.

13. Other Information

- Safety induction to be conducted to all new workers that involved to this activity.
- Safety tool box meeting shall be conducted to remind the workers about concerningthe safety.
- Make sure that material will be stored at temp storage area and should be barricadedproperly.

Table 1 – Hazard Consequence

Level	Descriptor	Health & Safety	Environment
5	**Catastrophic**	Multiple fatalities or multiple permanent disabling injuries or disease.	Massive pollution with significant recovery work lasting more than 12 months. Global media interest. Significant permanent damage.
4	**Major**	Fatality or permanent disablement from injuries or disease. Long term absence.	Significant pollution with offsite impact and recovery work requiring 6 – 12 months to fix. Some permanent damage. National and regional media interest
3	**Serious**	Life threatening injury/major health affect to individual requiring medevac to hospital facilities.	Pollution with some offsite impact and recovery work lasting 1 – 6 months.
		Short term absence from work.	Possible outside assistance required to contain. Some local media interest
2	**Medium**	Injury and illnesses requiring treatment by medically qualified person. Complete recovery. No lost time.	Minor pollution, slight or negligible impact, negligible remedial / recovery work lasting less than 1 month. Full recovery possible.
1	**Minor**	Injury which may or may not require first aid treatment. Slight health effect not affecting performance or causing absence.	Minimal pollution effect, contained locally. Complete recovery possible immediately.

Table 2 – Hazard Probability

Level	Descriptor	Health & Safety	Environment
5	**Almost Certain**	> 1 per week >25%	Continuous or will happen frequently
4	**Likely**	1 per week – 1 per month 10-25%	5 – 12 times per year
3	**Possible**	1 per month – 1 per year 1- 10%	1 – 5 times per year
2	**Unlikely**	1 per year – 1 per 10 years 0.1-1%	Once every 5 years
1	**Rare**	< 1/10 years	Less than once every 5 years
		0.1%	

Table 3 – Risk Level Matrix

		CONSEQUENCE				
		1 **Minor** 1st Aid First Aid Injury 1 < SAR10k	2 **Medium** MTI Medically Treated Injury SAR10K - SAR20k	3 **Serious** RWI Restricted Work Injury SAR20k – SAR100k	4 **Major** LTI Lost Time Injury SAR100k – SAR500k	5 **Catastrophic** Fatality > SAR500k
LIKELIHOOD	**A – Almost Certain** > 1 per week (>25%)	**MODERATE 11**	**HIGH 16**	**EXTREME 20**	**EXTREME 23**	**EXTREME 25**
	B – Likely 1/week – 1/month (10-25%)	**MODERATE 7**	**HIGH 12**	**HIGH 17**	**EXTREME 21**	**EXTREME 24**
	C – Possible 1/month – 1/year (1-10%)	**LOW 4**	**MODERATE 8**	**HIGH 13**	**HIGH 18**	**EXTREME 22**
	D – Unlikely 1/year – 1/10 years (0.1-1%)	**LOW 2**	**LOW 5**	**MODERATE 9**	**HIGH 14**	**HIGH 19**
	E – Rare < 1/10 years (0.1%)	**LOW 1**	**LOW 3**	**LOW 6**	**MODERATE 10**	**HIGH 15**

TOLERABILITY	**RESIDUAL RISK RATING** (after controls in place)	**RESULT**	**CONTROL LEVEL** (Authority)
	EXTREME	Unacceptable	CEO / COO
	HIGH	Undesirable	Project Director/Manager
	MODERATE	Tolerable, but risk should be reduced if reasonably practical	Supervisory Staff
	LOW	Broadly acceptable	Procedural Control