

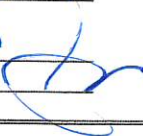
 新建工程私人有限公司 BHCC CONSTRUCTION PTE LTD		Request For Approval	BHCC/PNC8/RFA/AR/044
<input type="checkbox"/> Test Reports <input checked="" type="checkbox"/> Method of Statement <input type="checkbox"/> Catalogs <input type="checkbox"/> Samples			
<input type="checkbox"/> Shopdrawing <input type="checkbox"/> As-built Drawing <input type="checkbox"/> PE Calculations <input checked="" type="checkbox"/> Others			
Project : PROPOSED INTEGRATED DEVELOPMENT SITE OF PUNGGOL NORTHSHORE DISTRICT FOR PUBLIC HOUSING (PHASE 4 C8) PLOT 9 COMPRISING 2 BLOCKS OF 7/19/25 - STOREY & 1 BLOCK OF 26-STOREY RESIDENTIAL BUILDINGS (409 UNITS) WITH SINGLE STOREY CARPARK, CHILDCARE CENTRE, COMMUNITY FACILITIES, ESS, PRECINCT PAVILION, SKY TERRACES AT NORTHSHORE DRIVE (PGN C8) MK 21 ON LOTS 00315L PT, 01237T PT, 01497N PT, 01555N PT, 01557L PT, 01559C PT, 01559M PT, 01560L PT, 02776P PT, 02908A PT (PUNGGOL PLANNING AREA)	Date:	16/10/2017	
	No. of Pages	1+10	
	Requested Reply By (Date):	30/10/2017	
To :	Design Link Architects Pte Ltd	Attention:	Mr. Alvin Lee
Description of Submission:	Method Statement, Risk Assessment & Safe Work Procedure for Bath Floor Tile Installation		
System to be used in:	PNC8		
Attachments/Details:	1. Method Statement 2. Risk Assessment 3. Safe Work Procedure		
Submitted By			
Name:	Lin Yu Xiang		
Signature & Date:		16/10/2017	
Company:	BHCC CONSTRUCTION PTE LTD		
Copy To:			
<input checked="" type="checkbox"/> PM - Mr. Tang Xun <input checked="" type="checkbox"/> Architect - Mr. Alvin Lee <input checked="" type="checkbox"/> Architect - Mr. Tee Teck Hock <input checked="" type="checkbox"/> C&S - Mr. Santoso Lukito <input type="checkbox"/> C&S -		<input checked="" type="checkbox"/> M&E - Ms. Carol Ng <input checked="" type="checkbox"/> BHCC - Mr. Yang Xin Ping <input checked="" type="checkbox"/> BHCC - Ms. Helen Han / Ms Pan Zhihua <input checked="" type="checkbox"/> RE/RTO - Mr. Lu Jian Bo / Mr. Chan Kim Meng <input type="checkbox"/> Others -	
Consultant's Review/ Reply:			
<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved with comments with no resubmission required <input type="checkbox"/> Rejected (To re-submit)			
Remarks: TO REFER TO HDB GENERAL SPEC AND REFERENCE TO HIGHLIGHT			
Consultant	Design Link Architects Pte Ltd	Name of Person:	
		Signature /Date	
Copy To:			
<input checked="" type="checkbox"/> PM - Mr. Tang Xun <input checked="" type="checkbox"/> Architect - Mr. Alvin Lee <input checked="" type="checkbox"/> Architect - Ms. Velivia <input checked="" type="checkbox"/> C&S - Mr. Santoso Lukito <input type="checkbox"/> C&S - Mr.		<input checked="" type="checkbox"/> M&E - Ms Carol Ng <input checked="" type="checkbox"/> BHCC - Mr Yang Xin Ping <input checked="" type="checkbox"/> BHCC - Ms Helen Han / Ms Pan Zhihua <input checked="" type="checkbox"/> RE/RTO - Mr. Lu Jian Bo / Mr. Chan Kim Meng <input type="checkbox"/> Others -	

WORK STATEMENT FOR BATH FLOOR TILE INSTALLATION

Contract Name/No: HDB PNC8 - D/209/17

Main Contractor: BHCC Construction Pte Ltd

Sub-contractor: Jin Yi Construction Pte Ltd

Date of Demonstration: Schedule 24/10/2017 Actual _____

A	MATERIAL	SUPPLIED BY	APPROVAL DATE
1	Bathroom: Ceramic Floor Tiles, Size 300x300mm (C30051)	White Horse	20/09/2017
2	Bathroom/Yard Structured/Textured Ramp Tiles, Size 300x300mm (MML-J43)	Hafary Pte Ltd	Pending Sample Unit
3	Optiroc Tile Adhesive & Waterproofing Screed,	LCS Optiroc Pte Ltd	01/08/17
4	Optiroc Bonding Agent	LCS Optiroc Pte Ltd	01/08/17
5	Optiroc Color Tile Grout	LCS Optiroc Pte Ltd	01/08/17
6	Cross Spacer	NA	NA
7	Protective Cover	NA	NA

B	TOOL/ EQUIPMENT	BRAND MODEL (if applicable)
1	V-Box	NA
2	Hand-held or Mechanical Mixer	NA
3	Measuring Jug	NA
4	Spirit Level	NA
5	Notched Trowel	NA
6	Rubber Mallet	NA
7	Squeegee or Grouting Trowel	NA

C	SAFETY & HOUSEKEEPING
1	Ensure that the workers are wearing proper PPE including mask and protective gloves.
2	To strictly follow the approved RA/SWP. For material handling, to refer to MSDS (Material Safety Data Sheet)
3	All equipments shall be inspected and approved by designated LEW and must possess a LEW sticker.
4	Proper platform must be erected to carry out the works. No unsafe working platform is allowed.
5	Workers involved in mixing of prepacked materials shall be issued and wear dust mask to minimize the danger of toxin inhalation.
6	All materials to be stacked properly (max 6 bags stacked vertically) and elevated above the ground in dry/ covered area (with timber base).
7	Skill evaluation certificate of plasterer to be submitted before start of work. Any new worker/plasterer to conduct trade demo and records to be submitted to consultants.
8	Use approved socket and elevate electrical wirings from wet areas.
9	If hazard occurs: Eye Contact – flush eyes with clean water for at least 15mins. Skin Irritation – wash with water & mild soap. Inhalation – give fresh air.

10	Housekeeping will be done parallel to work progression. By the end of the job, the work area will be properly cleaned, inspected and handed over to the next sub trade and main con.
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D	METHOD STATEMENT
1	<u>Surface Preparation</u>
1.a	Prepare the substrate by clearing away any sand, dust, bonded foreign material, form oil, grease and any other particles that may inhibit adhesion.
1.b	Patch up exposed reinforcement with grade 40 non-shrink grout, if any.
2	<u>Mixing of mortar</u>
2.a	Use only approved material for all screed/rendering required for floor tilling as shown in the Bldg. Spec.
2.b	Add 4.8 – 6 liters of PUB water to 1bag of Optiroc Waterproof Screed Eco. Mix thoroughly using a hand-held or mechanical mixer for 3 - 7 minutes until a homogenous lump-free paste is achieved. The wet mix should be used within 30 – 45 minutes after mixing.
3	<u>Laying of Screed</u>
3.a	Start the rendering works right after the application of bonding agent.
3.b	Lay prepacked screed to form the mortar bed to required level of about 25mm to 45mm using a wooden/aluminium float with a fall evenly towards the water outlet as specified in the drawings (applicable to wet areas only).
3.c	The mortar bed shall be allowed to cure for at least 3 days before commencement of tile laying.
4	<u>Laying of Floor Tiles</u>
4.a	Ensure that the work area is brightly lighted. Tiler certificate to be pasted outside unit.
4.b	Sort out the tiles with the aid of a V-box. Tiles of one size group shall be laid in one area separate from tiles belonging to other size group. To also check the consistency of tiles using V-boxes. No cracked/scratched/ chipped/ permanently stained tile to be used. Contractor to check the tonality of tiles used in the same room and ensure consistency of the tonality. Tile tolerance to comply with HDB Specs.
4.c	Verify the tile layout against the approved tile layout workshop drawing. Check that correct tiles with the same batch/colour/ shade code and tonality are used by listing / monitoring which unit to use the delivered tiles.
4.d	Determine the correct finished level by checking against the common reference line marked on the wall.
4.e	Repeat step 1.a and dampen the plastered surface to receive the tile adhesive.
4.f	1. Mix Optiroc tile adhesive according to proportion of 6-7 liters to 25kgs of mortar using hand-held or mechanical mixer. 2. Mixed product shall be used within 30 minutes period. 3. Spread tile adhesive over an area of the substrate not exceeding 1.0m ² using notched trowel. It must also apply on the full back of the tile before placing tile in position. 4. Spread another layer of tile adhesive uniformly on the back of each tile, taking care to fill deep keys and all remaining depression. Note: The tile adhesive delivered to site should have the batch no, manufacturer and expiry date clearly listed on the packaging.
4.g	Spread with full bedding of adhesive mortar evenly on back of the tiles.
4.h	Ensure tile is tapped firmly using a rubber mallet to ensure that each tile makes contact over its whole area to achieve full bond and adjust to position within 5 minutes of fixing.
4.i	Tile shall be laid flat and level is checked with a spirit level. To check that joints for floor tiles coincide with joints of wall tiles.
4.j	Provide 3mm x 10mm stainless steel strip to areas which is at different materials specifically door ramp interfacing, kitchen/ living & bathroom/ living interfacing.
4.k	Provide a gap of 5mm to 6mm between installed tiles and perimeter of the walls to accommodate expansion.
4.l	Make sure that the joint are consistent by using the spacers. Joint width shall be between 1.0mm to

	2mm (base on tile size). Please enumerate the spacer individually for kitchen, toilet or living room. Specification stipulates to use 1.5mm for living room/ kitchen and 1.5mm & 2mm for bathroom. Be precise on selecting what spacer to use.
4.m	Lay the floor tile to fall towards water outlets and such that the joints are in alignment with the wall tile joints (applicable to bathrooms, services yard and kitchen).
4.n	Clean and rake off excessive adhesive and other unwanted materials from the joints to receive grout.
5	Grouting
5.a	The grouting of tiles joints shall commence after 24 hours and within 7 days after fixing of floor tiles.
5.b	Add 7.5 – 9 liters of PUB water to 1bag of Optiroc Color Tile Grout. Mix thoroughly using a hand-held or mechanical mixer for 3 – 5 minutes until a homogenous lump-free paste is achieved. The wet mix should be used within 30 – 45 minutes after mixing.
5.c	Spread the grout with a rubber trowel over the tiles. Press and ensure the joints are completely filled. Allow for the mix to achieve its initial set before gently cleaning the face of the tiles and smooth out the grout with a clean damp sponge.
5.d	After the grout has dried, the tile surface shall be cleaned and given a final polish using a clean dry cloth. If required, use a cleaning detergent to carry out any subsequent cleaning.
5.e	After the SO Rep has inspected the finished surface, lay a protective plastic sheet over to protect it from damage and staining.
	Note: Water test shall be conducted within one month before handing over inspection.

Prepared / Proposed by:

Approved by:



Lin Yu Xiang - 27/09/2017

Contractor's P. Mgr & Date



30/10/17

DLA Architect's & Date

Acknowledged by



30/10/17

Consultant PM & Date

RISK ASSESSMENT FORM

Company:	Jinyi Construction Pte Ltd		RA Leader:	Hunag Jiancheng		Approved By:	Reference Number	
Process:	Bath Floor Tile Installation		RA Member 1:	Lin Wei		Signature:	002	
Process / Activity Location:	PUNGGOL C9-Tiling works		RA Member 2:	Lin Jian		Name:	Lin Wei	
Original Assessment Date:	25/08/2017		RA Member 3:	Wang Guolin		Designation:	Director	
Last Review Date:	25/08/2017		RA Member 4:	Lin Baicai		Date:	25/08/2017	
Next Review Date:	24/08/2020		RA Member 5:					

Operation: wall tile installation

1. Hazard Identification			2. Risk Evaluation				3. Risk Control							
1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g
No.	Activity	Hazard	Possible Accident/Injury & Persons-at-Risk	Existing Risk Control	S	L	RPN	Additional Control	S	L	RPN	Implementation Person	Due Date	Remarks
1	Storage of Materials	Topping of materials / hit by materials sliding down. improper manual lifting	Bodily injury and back injury	Store on even ground / pallets with proper stacking within safe height limit of 2.0 m, no storage at edge of excavation / drop & use of PPE (helmet & safety boots) at storage zones. Cultivate proper manual lifting	3	2	6	Display of correct manual lifting technique at site notice board, mark sure 300mm above ground level	3	1	3	Site Supervisor to monitor	25/08/2017	
2	Installation & Application	Bad posture Electric Shock / Electrocution	Back injury Bodily Injury / Death	Briefing on safe manual lifting Suspension of electric cables on non-conductive supports. Provision & maintenance of Socket-Outlet-Assembly and Distribution Board that are "electrically safe-for-use"	4	2	8	Tool box meeting prior to start of work. Periodic training by supervisor.	4	1	4	Site Supervisor to monitor	25/08/2017	
		Inhalation of cement constituents / dust	Respiratory tract irritation	Wearing of respirator (dust mask)	4	2	8	Monthly LEW checks with prompt follow up on rectification by safety personnel & project team	4	1	4	Site supervisor to monitor	25/08/2017	
					4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	



1. Hazard Identification			2. Risk Evaluation				3. Risk Control							
1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g
No.	Activity	Hazard	Possible Accident/Ill Health & Persons-at-Risk	Existing Risk Control	S	L	RPN	Additional Control	S	L	RPN	Implementation Person	Due Date	Remarks
2	Installation & Application	Contact with additive (chemical)	Skin irritation	Use of rubber gloves by plasterer. Random inspection by foreman / safety personnel	4	2	8	Tool box meeting prior to start of work.	4	1	4	Site Supervisor to monitor	25/08/2017	
		Splash of mixture into eyes	Eye injury	Use of goggles by plasterer. Random inspection by foreman / safety personnel	4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	
		Trip & Fall	Bodily Injury	Use of safety harness / safety belt hooked onto to scaffold / gondola / lifeline. Proper work platform with guardrails at all open areas.	3	2	6	Tool box meeting prior to start of work	3	1	3	Site Supervisor to monitor		
		Falling Object	Bodily Injury / Death	Effective netting to prevent falling object. Good housekeeping. No material on the edge. Barricade the affected area at ground level.	4	2	8	Tool box meeting prior to start of work. Tool Box Meeting and Implement Permit-To-Work at Height above 2 m	4	1	4	Site Supervisor to monitor	25/08/2017	
		Fall From Height (require to use work platform)	Bodily Injury / Death	Use of proper access and good housekeeping condition. Appropriate training before authorised worker to work at height. Inspection of work platform before usage. Ensure O3 side proper barricade installed before usage. Ensure open edge barricade protection installed.	4	2	8	Tool box meeting prior to start of work. Refresher training to workers. STOP WORK reporting of unsafe work condition to supervisor. Do not place body beyond the barricade area.	4	1	4	Site Supervisor to monitor	25/08/2017	
3	Mixing of plaster cement mortar mix or pre-packed plaster	Bad posture	Back injury	Briefing on safe manual lifting	5	2	10	Tool box meeting prior to start of work	5	1	5	Site Supervisor to monitor	25/08/2017	



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1. Hazard Identification			2. Risk Evaluation				3. Risk Control							
1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g
No.	Activity	Hazard	Possible Accident/Ill Health & Persons-at-Risk	Existing Risk Control	S	L	RPN	Additional Control	S	L	RPN	Implementation Person	Due Date	Remarks
		Inhalation of plaster constituents	Respiratory tract irritation	Wearing of respirator (dust mask). Random inspection by foreman / safety personnel	3	2	6	Tool box meeting prior to start of work	3	1	3	Site Supervisor to monitor	25/08/2017	



1. Hazard Identification			2. Risk Evaluation					3. Risk Control						
1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g
No.	Activity	Hazard	Possible Accident/Ill Health & Persons-at-Risk	Existing Risk Control	S	L	RPN	Additional Control	S	L	RPN	Implementation Person	Due Date	Remarks
3	Mixing of plaster cement mortar mix or pre-packed plaster	Electric Shock / Electrocutation	injury / Death	Suspension of electric cables on non-conductive supports. Provision & maintenance of safe Socket-Outlet-Assembly and Distribution Board	5	2	10	3 Monthly LEW checks with prompt follow up on rectification by safety personnel & project team	5	1	5	Site Supervisor to monitor	25/08/2017	
3	Mixing of plaster cement mortar mix or pre-packed plaster	Fingers / Hand caught by moving parts of cement mixer	injury	Safety briefing on precautionary measures & effective guarding of moving parts of mixer	4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	
		Contact of plaster constituents with hands / eyes	Skin / eye irritation	Use of protective rubber gloves for hands and use of safety goggles against potential eye injury. Random inspection	4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	
4	Transferring of tile plaster cement to various locations of plastering	Accidental contact of cement mortar mix with eye (eg. dropped into eye)	Blind / Eye irritation / injury	Use of goggles during screeding. Random inspection by foreman / safety personnel	5	2	10	Tool box meeting prior to start of work	5	1	5	Site Supervisor to monitor	25/08/2017	
		Contact with plaster constituent	Skin Irritation	Use of rubber gloves. Random inspection by foreman / safety personnel	4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	
		Trip & Fall	Bodily injuries	Maintenance of unobstructed access and good housekeeping condition	4	2	8	Tool box meeting prior to start of work	4	1	4	Site Supervisor to monitor	25/08/2017	



2

1. Hazard Identification		2. Risk Evaluation					3. Risk Control							
1a	1b	1c	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g
No.	Activity	Hazard	Possible Accident/ill Health & Persons-at-Risk	Existing Risk Control	S	L	RPN	Additional Control	S	L	RPN	Implementation Person	Due Date	Remarks

5 X 5 Risk Matrix with Numeric Ratings

Severity \ Likelihood	Rare (1)	Remote (2)	Occasional (3)	Frequent (4)	Almost Certain (5)
Catastrophic (5)	5	10	15	20	25
Major (4)	4	8	12	16	20
Moderate (3)	3	6	9	12	15
Minor (2)	2	4	6	8	10
Negligible (1)	1	2	3	4	5

Low Risk Equals 1 to 8

Low Risks are largely acceptable, subject to reviews periodically, or after significant change.

Medium Risk Equals 9 to 15

Medium Risks should only be tolerated for the short-term and then only whilst further control measures to mitigate the risk are being planned and introduced, within a defined time period.
 Note: Medium risk can be an organizations greatest risk, it's Achilles heel, this due to the fact that they can be tolerated in the short-term.

High Risk Equals 16 to 25

High Risks activities should cease immediately until further control measures to mitigate the risk are introduced.



Jinyi Construction Pte Ltd

SAFE WORK PRACTICES

1 SAFE WORK PROCEDURE FOR INSTALL OF FLOOR TILE

做地砖安全工作程序

(a) **Purpose** 用途

To ensure the safe practices during install of floor tile.
为了确保安装地砖的安全的做法。

(b) **Scope** 适用范围

This procedure is applicable to this project.
本程序适用于这个项目。

(c) **Responsibility** 责任

To ensure surrounding area and condition are safe to install of floor tile.
为确保周边地区和条件是安全的给人安装地砖。

- WSH Supervisor – To ensure surrounding area and condition are safe to install of floor tile.
- Foreman – To ensure supervision and briefing to workers on safe work procedure.
- 现场监督 - 为了确保周边地区和状况是安全的交给工人装地砖。
- 现场监督 - 确保监督简报工人的安全工作程序。

(d) **Procedures** 工作程序

- Site Supervisor shall ensure a storage area designated for floor tile.
- Proper tools are issued and electrical mixers are checked before use.
- Materials not to place near edge of building.
- Ensure scaffold is safe before using by foreman,
- Provision of access from inner building to external scaffold by Scaffold Supervisor,
- Prior to installation, working platform, toe board, guard rail and mid rail to be in place and check by WSH Supervisor,
- To apply permit to work at height,
- Comply with scaffold safe working load per bay, not to overload,
- At all times, not to remove any members of the scaffold system,
- Materials to be transported to work area in a safe manner.
- Provision of certified MEWP operator and maintenance for the MEWP as required.
- Site supervisor to ensure all workers are issued with safety harness and PPE items,
- Safety harness to be anchored to secured elements at all times,
- Materials not to leave on scaffold overnight,
- Personal hygiene to maintain as cement classified as toxic materials,
- To perform toolbox meeting before commencement of work,
- Working platform to keep clean after plastering,
- Perform housekeeping at end of day.

- 现场主管应确保指定的瓷砖的存储区域。

- 正确的工具，发行及电气混频器在使用前进行检查。
- 材料不要放在靠近建筑物的边缘。
- 确保脚手架安全使用由工人前，
- 提供了脚手架主管从内部建设，外部脚手架的访问，
- 在此之前装地砖，工作平台，底护板，护轨和中轨必须到位，并检查了安全监督员，
- 要申请许可证，高空作业，
- 符合每个间隔脚手架安全工作负荷，不超载，
- 在任何时候，不要取下支架系统的任何成员，
- 材料被运到安全的方式工作区，
- 提供所需认证的移动高架工作平台运营和维护移动高架工作平台。
- 现场监督，以确保所有工人都用安全带和安全防护设备项目发行，
- 安全背带被固定到固定的元素在任何时候，
- 材料不脚手架上留下过夜，
- 个人卫生，保持水泥列为有毒物质，
- 要动工之前执行工具箱会议，
- 工作平台涂灰泥后要保持清洁，
- 在一天结束时进行家政服务。

(e) **Conclusion 结论**

This procedure is to be disseminated during WSH toolbox briefing. Site Supervisor and WSH Supervisor are to ensure full compliance and review on the Procedures when necessary.

这个过程是在安全工具箱简报传播。现场监督和安全监理是确保全面遵守和审议程序，如果必要。