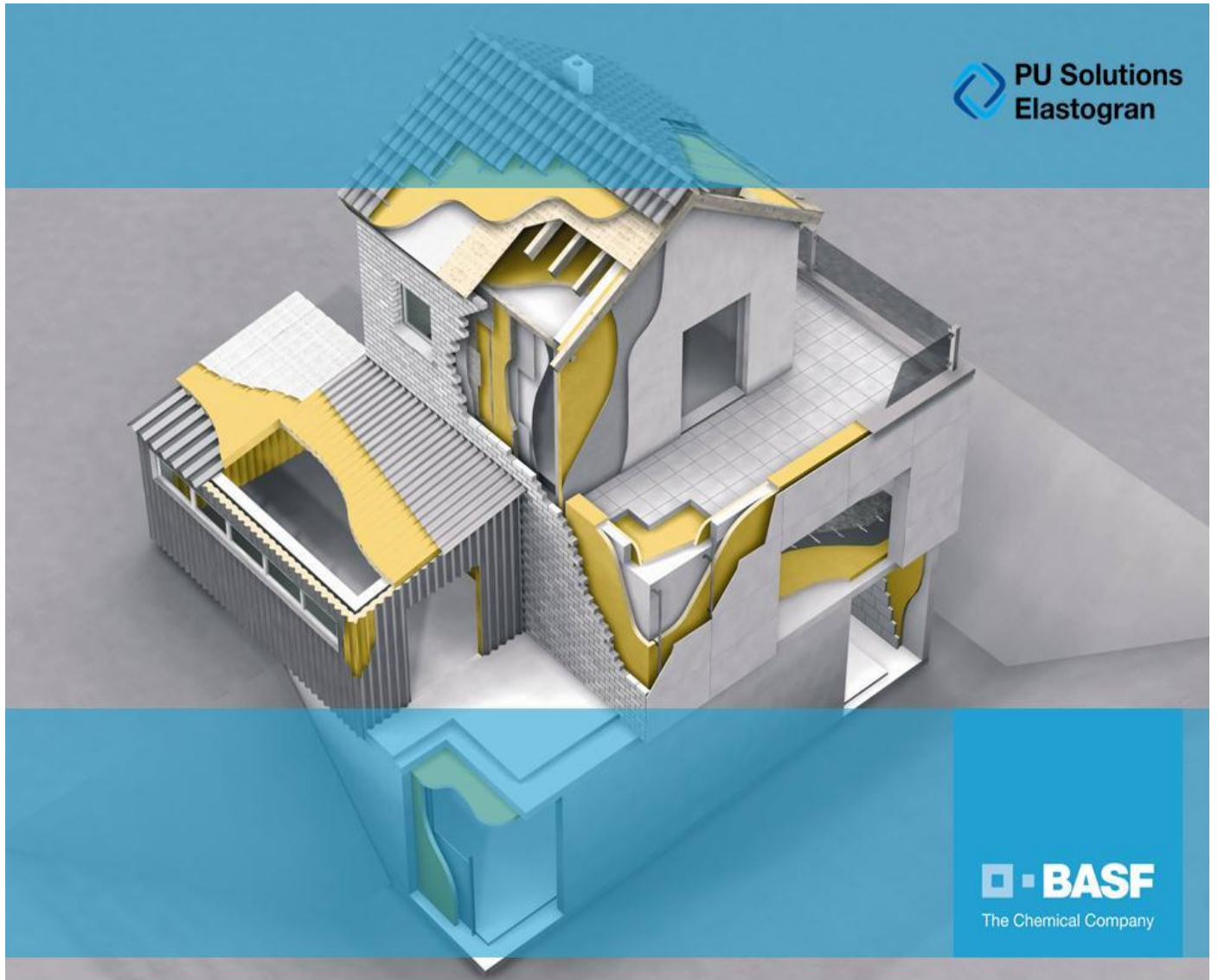


# BASF STANDARD ROOFING SYSTEM



BASF CONSTRUCTION CHEMICALS UAE LLC  
BASF KANOO POLYURETHANES LLC



AUTHORIZED APPLICATOR FOR BASF STANDARD ROOFING SYSTEM



The Chemical Company

14<sup>th</sup> July 2013

**PORTFOLIO QATAR WLL**  
30513 Doha  
Qatar

**Ref: LQ-466-KE**  
**Subject: Approved Applicator**

**To Whom It May Concern**

Dear Sir,

BASF Construction Chemicals UAE LLC are pleased to confirm that M/s PORTFOLIO QATAR WLL is an Approved Applicator for Standard Roofing System.

We trust that the above is sufficient for your purposes.

Should you require any further assistance with this or any other matter please do not hesitate to contact the undersigned.

Yours sincerely;

*for 9*

**Karim Elbialy**  
Commercial Manager - Watertight Systems  
BASF- Qatar



CONSTRUCTION MATERIALS Co. L.L.C., PO BOX 55426, DOHA, QATAR, TEL: 44114870, FAX: 44114872

## INTRODUCTION

**Portfolio Qatar** was established in the year 2009 as a facility management company in Qatar, we have many divisions related to construction industry, being in this country for many years in **Waterproofing & Thermal insulation**, with our quality and experience, we become the fully authorized applicator for **BASF STANDARD ROOFING SYSTEM**. **BASF** is a worldwide company known as a leading manufacturer of water proofing products & allied construction chemicals. They do have one of the best **R&D** facilities available, fully dedicated to the requirements of the construction industry.

Our **Waterproofing & Heat insulation Division** is fully mechanized with advanced machineries that move to work sites along with highly skilled technicians to bridge technological gap and bring in the best possible technology and quality application right to the door step of every individual customer in the region.

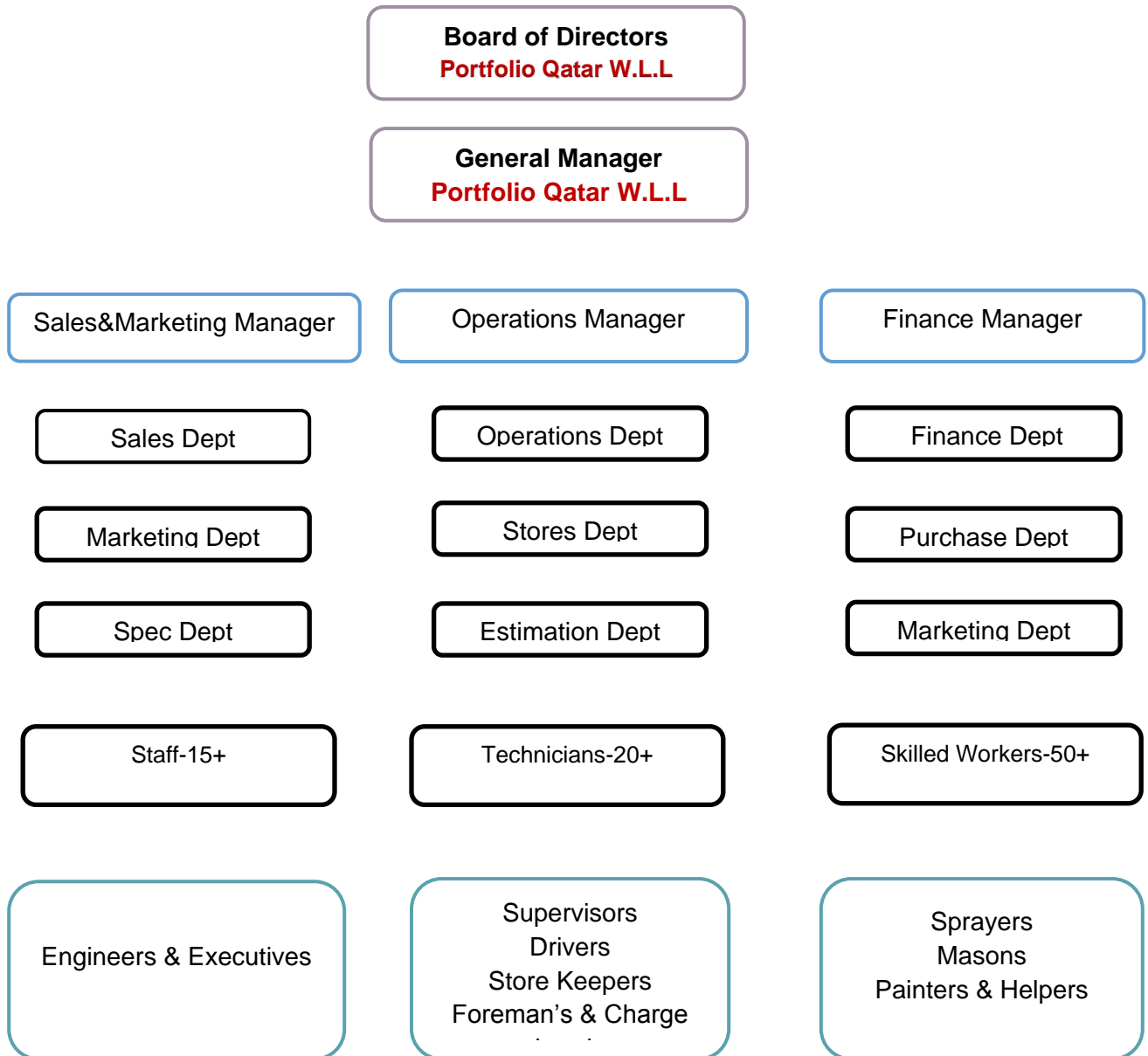
Being a **Grade A** Company, we emphasize on quality management systems assuring quality service to our valuable customers, adopting the best of technology available. We devote ourselves to adopt innovative ideas to solve the complex issue that the industry is facing now a day.

The systems we promote are widely been accepted by major contractors & consultants in Qatar based in its technical superiority, better logistics control and time saving factors. Our team is fully equipped to meet the most stringent international standards.

We are committed to install Quality **Thermal Insulation & Waterproofing Systems** with **BASF** for buildings ensuring performance during stipulated guarantee period. We are equally committed to continuously improve the quality management system through innovative approach, planning & team work. So far we have successfully proved to our commitments, minimizing complaint levels during the operation as well as post operation period.

## ORGANIZATION CHART

Operations Capacity: 30000 SQM /Monthly



## Quality Policy

To install quantity thermal insulation and moisture Protection with **BASF STANDARD ROOFING SYSTEM** for buildings ensuring performance during stipulated warrantee period.

We are committed continuously to improve the quality management system through innovative approach, planning and teamwork.

Jimmy Jacob  
General Manager  
Portfolio Qatar

## **HEALTH, SAFETY & ENVIRONMENT PROTECTION PLAN**

### **COMMITMENTS:**

PORTFOLIO QATAR takes responsibility to protect the health and safety of its employees and that of its sub-contractor's employees engaged by the organization.

PORTFOLIO QATAR takes the responsibility to protect the environment around it while its activities are ongoing.

PORTFOLIO QATAR takes the responsibility to timely service and maintain all its plants and equipment for safe operation.

PORTFOLIO QATAR takes the responsibility to function in compliance with the laws and statutes of the QATAR.

### **GENERAL GUIDELINES TO ALL EMPLOYEES:**

1. Strict disciplinary action will be taken against employees found violating below given instructions:
2. Do not use defective tools or equipment's.
3. Never leave power tools with connections to power source.
4. All tools and equipment's to be used with their respective guards and safety devices in place.
5. Never operate tools that aren't assigned to you.
6. Use always the right tool for the right purpose.
7. Never indulge in unsafe working conditions.
8. Use eye protection whenever there is a risk of flying objects.
9. Use ear protection while working in noisy conditions.
10. Use face mask while undertaking spray application.
11. Never wear loose clothes.
12. Always wear hard-hat and shoes while working at site.

13. Wear hand gloves while using hammering equipment's and chemicals.
14. Never stand near falling weights and aisles.
15. Never store materials in aisles.
16. Never work under intoxication.
17. Never try to stop moving objects with sharp edges using bare hands.
18. Never stand on moving equipment's.
19. Never use compressed air to clean your body parts.
20. Make sure of good housekeeping.
21. Report all injuries immediately to superiors.
22. Know where to locate the first aid in the event of an emergency.

## **POINTS FOR GOOD HOUSEKEEPING:**

1. Keep the working area free of loosely lying tools and equipment's.
2. All Spillages should be effectively cleaned to avoid any slippery effect.
3. A safe storage area to be demarcated and secured prior to arrival of raw materials to work site.
4. All required raw materials for Smooth execution of the works to be neatly stockpiled for easy access.
5. Assign responsibilities to individuals depending on the size of the job, for issue of materials from the storage area.
6. Provide trash cans at sites to collect and dispose wastes that accumulate on a daily basis.



## Specification in detail

PROPOSED **BASF STANDARD ROOFING SYSTEM** WATERPROOFING SYSTEM SHALL INCLUDE FOLLOWING MATERIALS AND WORKS TO BE SUPPLIED AND INSTALLED BY AN APPROVED APPLICATOR WITH A GUARANTEE OF 15 YEARS.

1. Roof slab shall be inspected by a roofing Specialist from the applicator's/manufacture's office and confirm acceptance of the roof for application of the **BASF STANDARD ROOFING SYSTEM** for thermal insulation & waterproofing.
2. Clean the roof using compressed air to make sure substrate is free of dust and debris.
3. Supply & spray apply **ELASTOSPRAY 1611/17** polyurethane complying with BS 5241 – part 1 at an average thickness of 40 mm over the entire roof area including the up stand to a height of max. 150mm
4. Supply & brush apply **MASTERSEAL 550 H** over the entire foam area and allow drying for minimum 24 hours
5. Flood test the roof for a minimum period of 24 hours.
6. Supply & lay **GIOTEXTILE** (80gsm) protection layer over the entire roof area.
7. Supply & fix **JOLLY BOARD** expansion joint filter board in slope and in panels (4x4m).
8. Supply & lay Protective screed (250 OPC) in panels and cure as per standard procedures.
9. Prepare angle fillet all around parapet skirting area (For foundation –Angle fillet to be done only for direct slab foundation) and up stand using sand cement mortar.
10. Supply & apply **MASTERFLEX 700PG** polyurethane sealant to all construction joint including **BACKING ROD**.



11. Supply & apply **MASTERSEAL 550 K** over the entire angle fillet area including up stand and allow drying for 48 hours.
12. Final inspection shall be carried out and the applicator shall issue a **GUARANTEE OF 15 YEARS.**

## Procedure and scope of work

1. Upon casting and complete curing of roof slab, manufactures/applicator's engineer shall visit the site to inspect the roof and accept the roof for water proofing and heat insulation work. A preliminary site inspection shall be carried out and any further preparation work if required shall be brought to the attention of the main contractor. Prior commencement of roof water proofing works, main contractor shall make sure following conditions are met:

- ❖ All joints existing between roof slabs other than expansion joints provided shall be filled with mortar.
- ❖ All electrical conduits and other service entire to slab shall be closed with mortar.
- ❖ Sides of electrical conduits and service entire shall be sealed with mortar.
- ❖ Rain water outlets shall be in place at specified height (25mm) as per slope.
- ❖ Vertical parapet wall shall be plastered to the required height.
- ❖ Roof door threshold shall be in place.
- ❖ AC or water pipes sleeves shall be in place at a minimum height of 400 mm
- ❖ All other works on the roof shall be completed prior to commencement of water proofing works.

2. On acceptance of roof from the main contractor, application crew of the approved manufacturer shall visit the site to commence mechanized cleaning operations using compressed air to free the entire substrate from dust and any other loosely lying particles.

3. On completion of cleaning works, other preparatory works shall be undertaken like covering of parapet wall and other utilities fixed on the roof to avoid the risk of over spray.

4. Upon completion of preparatory works, **BASF STANDARD ROOFING SYSTEM** application shall commence where a combination of polyol & Isocyanate is sprayed onto the roof slab including up stands using gusmer's (USA) combination equipment. The spray applied system form an impermeable waterproofing cum insulation layer with high thermal resistance, closing all pores and cracks that exists in the roof slab.

5. On completion of polyurethane foam application, Masterseal 550 H base protection coating shall be applied over entire angle fillet area of maximum thickness 300 microns by brush.

6. Once base protection coating is completely dried (minimum 24 hours), manufacturer's Engineer shall visit the site to inspect the works completed and give clearance for flood test (minimum 24 hours), on successful completion of flood test a test report shall be prepared and maintained for records.
7. Upon successful completion of flood test, water shall be removed and Geotextile (80gsm) membrane shall be laid as a protection layer over the entire roof area prior to commencement of screeding works.
8. Manufacturer's Engineer shall make level marking for screeding at site and screeding crew of the manufacturer shall commence the paneling work using Jolly board expansion joint filler board and pre mixed cementitious adhesive mortar (or cement sand mortar) to attain the desired slope levels as indicated in the approved drawing.
9. Once screed is completely cured, all construction joints shall be opened and treated using heavy duty Masterflex 700 PG Polyurethane Sealant and backing rod for accommodating movement of the concrete during expansion and contraction.
10. Once sealant applied is completely cured, Masterseal 550 K acrylic cementitious waterproof coating shall be applied over entire angle fillet including up stands to form a uniform coating of maximum thickness 400 microns.
11. Once the final coat is completely cured for 48 hours, manufacturers/applicator's Engineers shall visit the site for final inspection and a **Guarantee of 15 years** shall be issued.

## Specification in Brief

Properties	
1 <sup>st</sup> Layer	<p>POLYURETHANE FOAM</p> <p>Elastospray 1611/17</p> <p>Brand - <b>BASF</b></p> <p>Grade: Spray</p> <p>Average thickness: 40mm</p> <p>Core Density: 45kg/M3</p> <p>Comp. strength: 1.52kg/cm2</p> <p>Tensile Strength: 3 kg/cm2</p> <p>Thermal Conductivity: 0.0213W/(mK) (aged value) Closed cells: 98%</p>
2 <sup>nd</sup> Layer	<p>PROTECTION BASE COAT</p> <p>Masterseal 550"H"</p> <p>Brand-<b>BASF</b></p> <p>Grade: Brush</p> <p>Density: 1938KG/M3</p> <p>Standards: BS 476</p>
3 <sup>rd</sup> Layer	<p>GEOTEXTILE</p> <p>Grade: Filter Membrane</p> <p>Mass: 80gm/M2</p> <p>Elongation: 50% Color: White</p>
Construction Joints:	<p>FILLER-BOARD</p> <p>Grade: Impregnated filler Board</p> <p>Thickness: 12mm</p> <p>Density: 220 kg/M3</p> <p>Standards: BS 1142</p>
4 <sup>th</sup> Layer	<p>SCREED CONCRETE</p> <p>Grade: Pouring</p> <p>Admix: CORMIX P9</p> <p>Mix Class: 300 OPC /20N/M<sup>3</sup></p> <p>Density: 2.5Kg/Ltr.</p>
Construction Joints:	<p>BACKING ROD</p> <p>Thermal Conductivity : 0.026 Kcal/mhc</p> <p>Water Absorption: 0.0051 mg/cm<sup>2</sup> max.</p> <p>Temperature Stability : - 10<sup>0</sup> C to + 80<sup>0</sup> C</p>

# BASF STANDARD ROOFING SYSTEM



Construction Joints	POLYSULPHIDE SEALANT MASTERFLEX 700 PG Brand – <b>BASF</b> Grade: Pouring Standards: ASTM C 920, BS 4254
5 <sup>th</sup> Layer	ARCLIC FINISH COATING Masterseal 550”K” Brand- <b>BASF</b> Grade: Brush Density: 1938KG/M3 Standards: BS 476

## Key physical and technical features of PU foam

Properties	35-45	45-55	55-65	100-120	Standards
Density [kg/m <sup>3</sup> ]	35-45	45-55	55-65	100-120	ISO845, DIN EN1602, ASTM D1622
Thermal conductivity $\lambda$ [W/(m·K)]	≤0.024	≤0.024	≤0.024	≤0.024	ISO8302, EN12667, ASTM D518
Compressive strength (10% compression) [kPa]	≥150	≥200	≥300	≥1000	ISO844, EN826, ASTM D1621
Dimensional Stability (70°C, 48h) [%]	≤ 1.5	≤ 1.5	≤ 1.0	≤ 1.0	ISO2796, ASTM D2126
Closed cell structure [%]	≥ 90	≥ 90	≥ 90	≥ 90	ISO4590, ASTM D2856
Water absorption [%]	≤ 3	≤ 2	≤ 2	≤ 2	ISO2896, EN12087, ASTM D2842
Fire performance--Oxygen Index [%]	≥26 <sup>[1]</sup>	≥26 <sup>[1]</sup>	≥26 <sup>[1]</sup>	-	ISO4589
Fire performance <sup>[2]</sup>	B1, B2, B3 E or F	B1, B2, B3 E or F	B1, B2, B3 E or F	B2, B3 E or F	DIN4102 DIN EN13501-1
	Class I, II, III	Class I, II, III	Class I, II, III	-	ASTM E84

[1]: Can be achieved based on requirements

[2]: Different fire protection classes can be achieved upon different requirements.

## Warranty Certificate

Subject to terms set forth in this warrantee, **PORTFOLIO QATAR** hereby certify that **BASF STANDARD ROOFING SYSTEM** Waterproofing & Thermal Insulation System installed by us in below given project has a warranted life period (**15 years**) against leakage, whereas the product is designed to perform satisfactorily for an indefinite period, we warrantee the product's performance (Waterproof Roof& Thermal Insulation) for a minimum period of 15 years from the date of installation. Should the system fail to perform as expected, **PORTFOLIO QATAR** agrees to carry out all the remedial works any cost to the Client / Contractor under this warrantee, **PORTFOLIO QATAR** shall be responsible to maintain the water tightness and thermal insulation of the roof in warrantee period.

**Client**

**Consultant**

**Contractor**

**Project**

**Roof Waterproof Area**

**Building Permit No.**

**Date of Installation**

**Date of Expiry**

SAMPLE

**For**

**Operations Manager  
Portfolio Qatar**



# BASF STANDARD ROOFING SYSTEM

**BASF**  
The Chemical Company

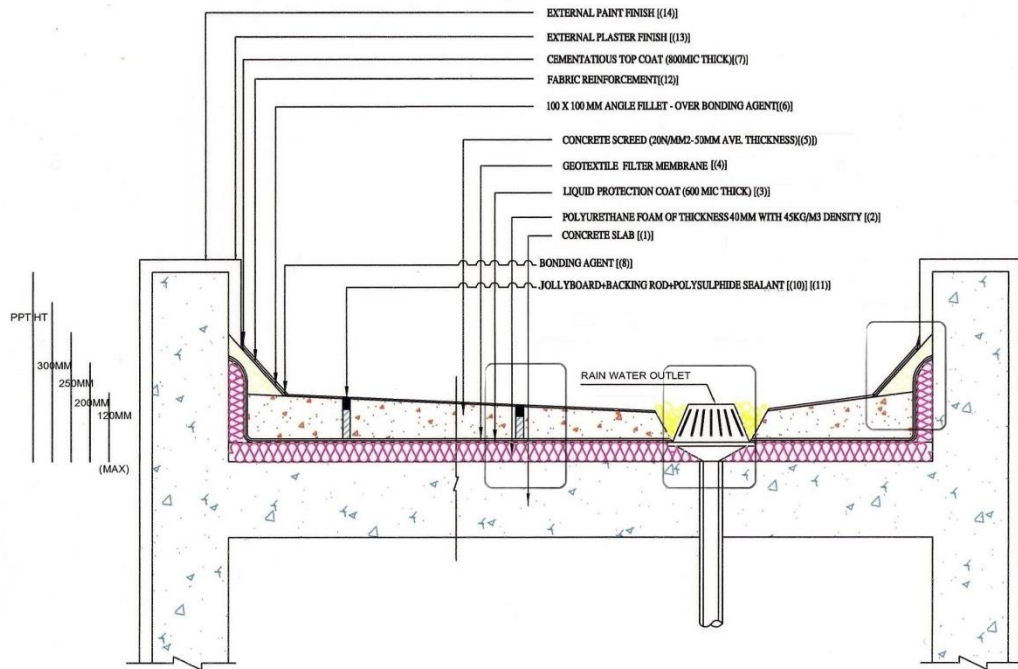
## Pictures – work stages



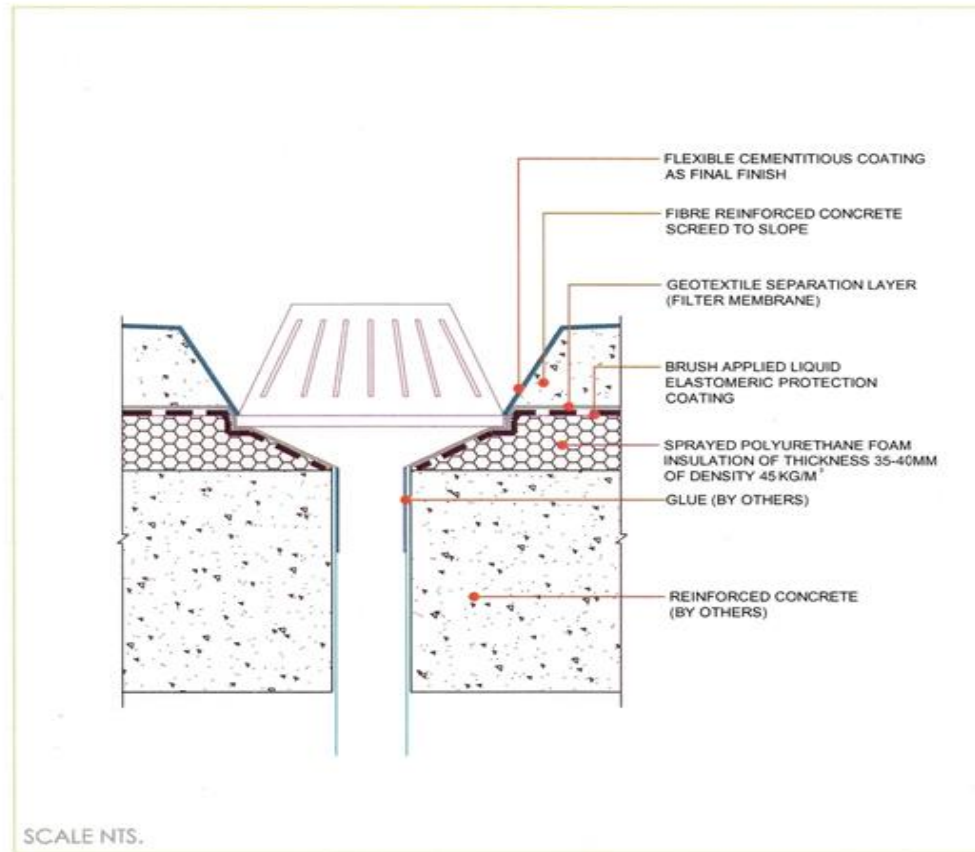
فورتفوليو قطر  
**Portfolio**  
Qatar

AUTHORIZED APPLICATOR FOR BASF STANDARD ROOFING SYSTEM

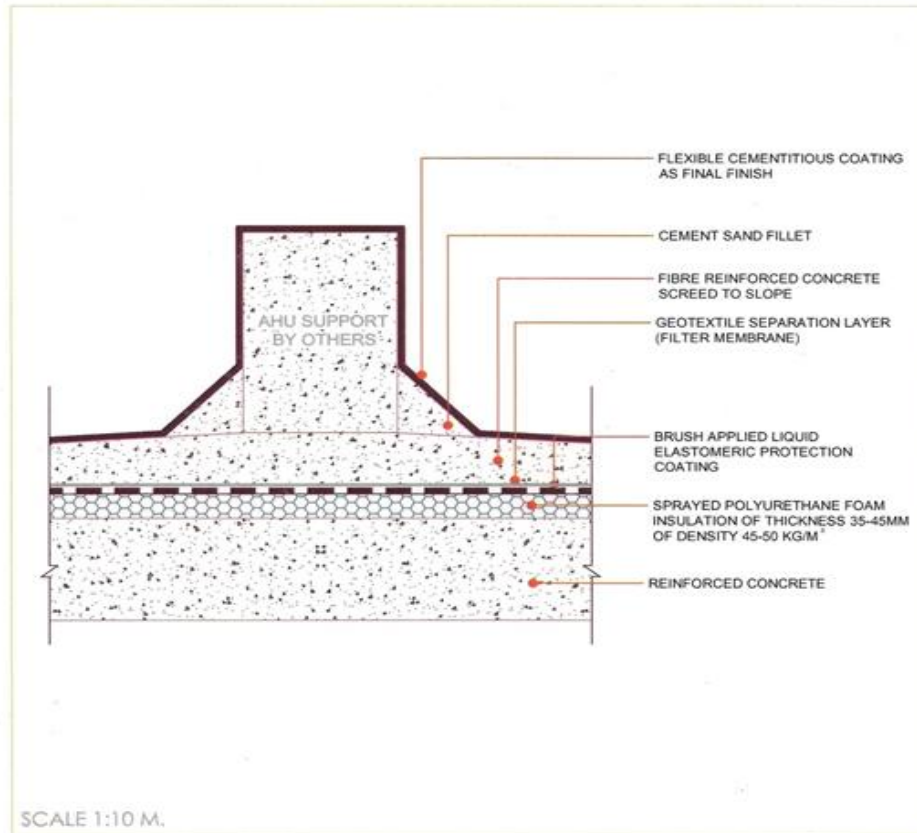
## Section - Typical



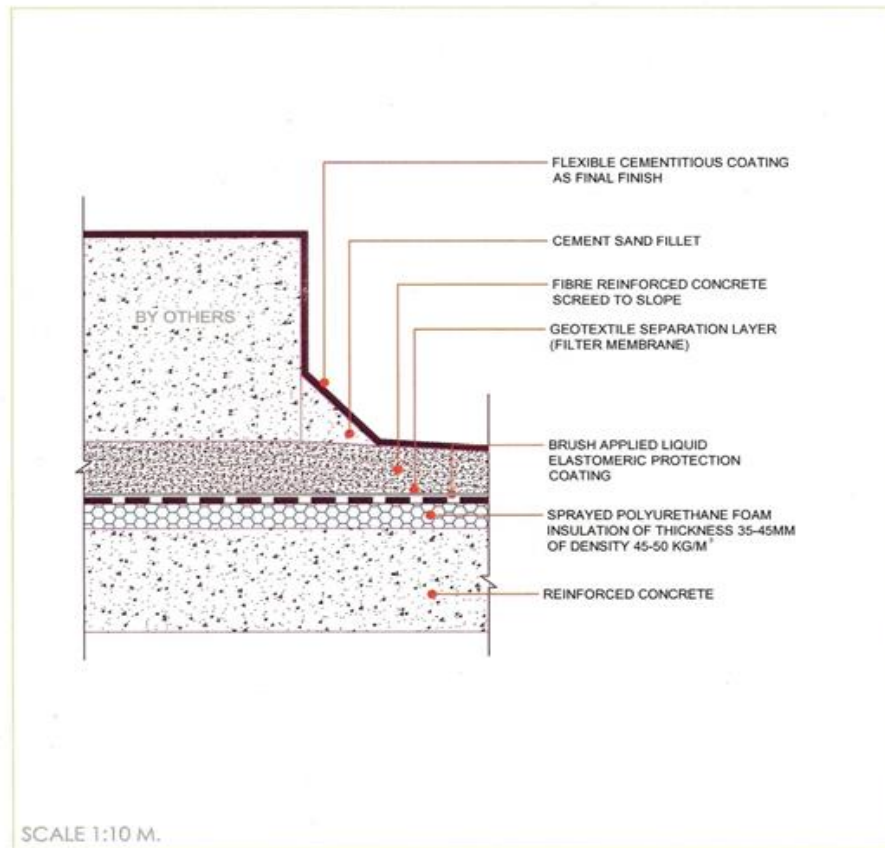
## Water Outlet Detail



## AHU - Foundations

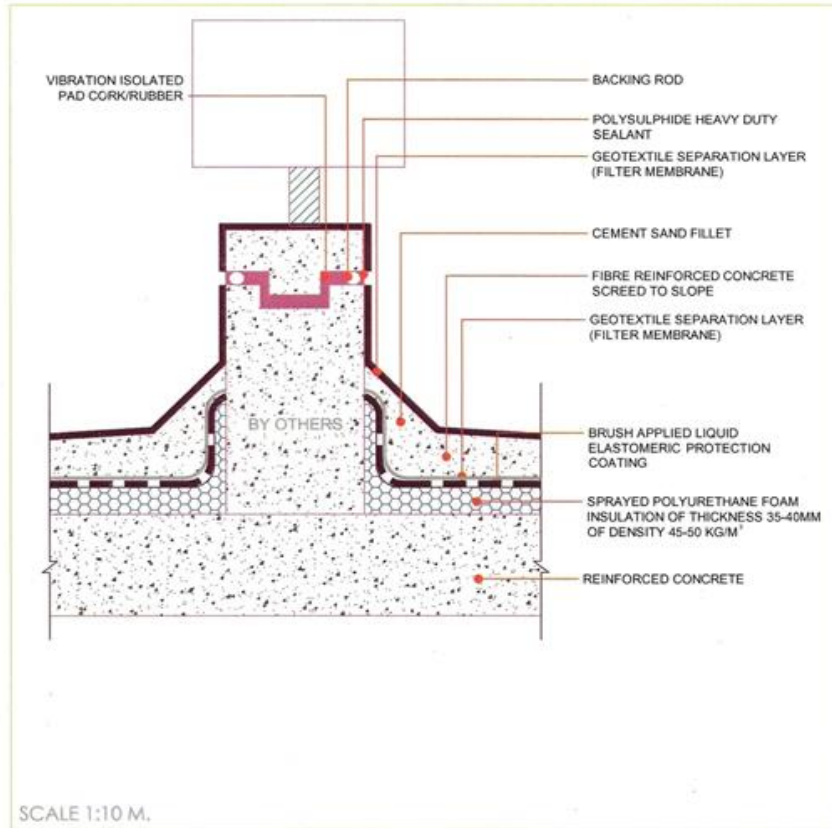


## Utility Base On Roof - TYP

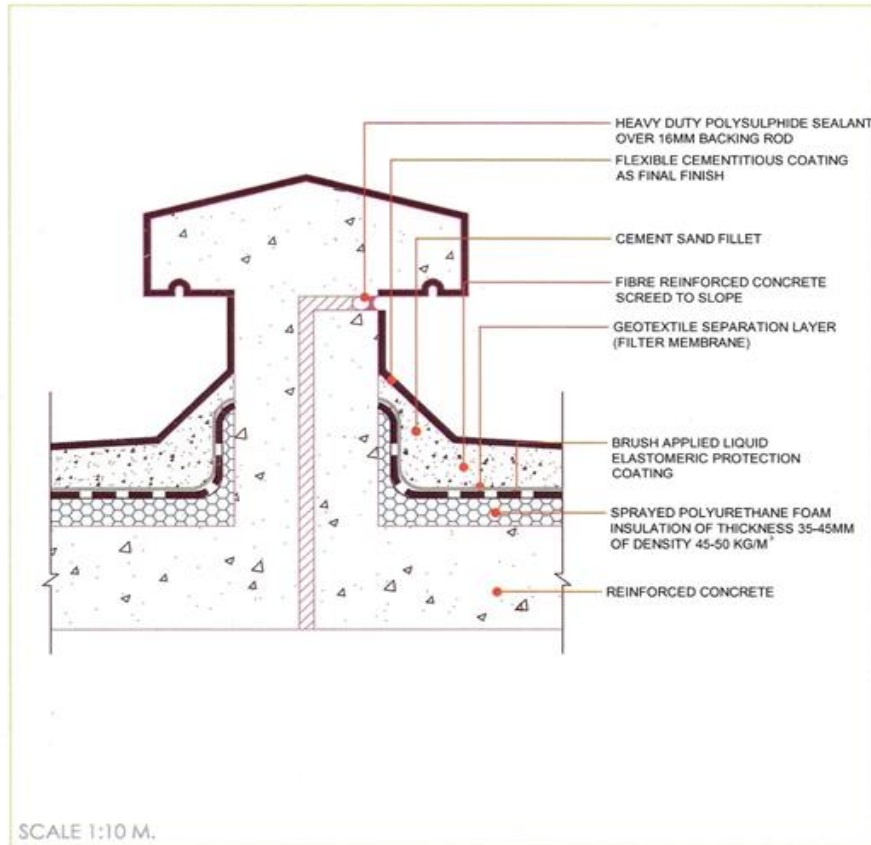




## Chiller Units

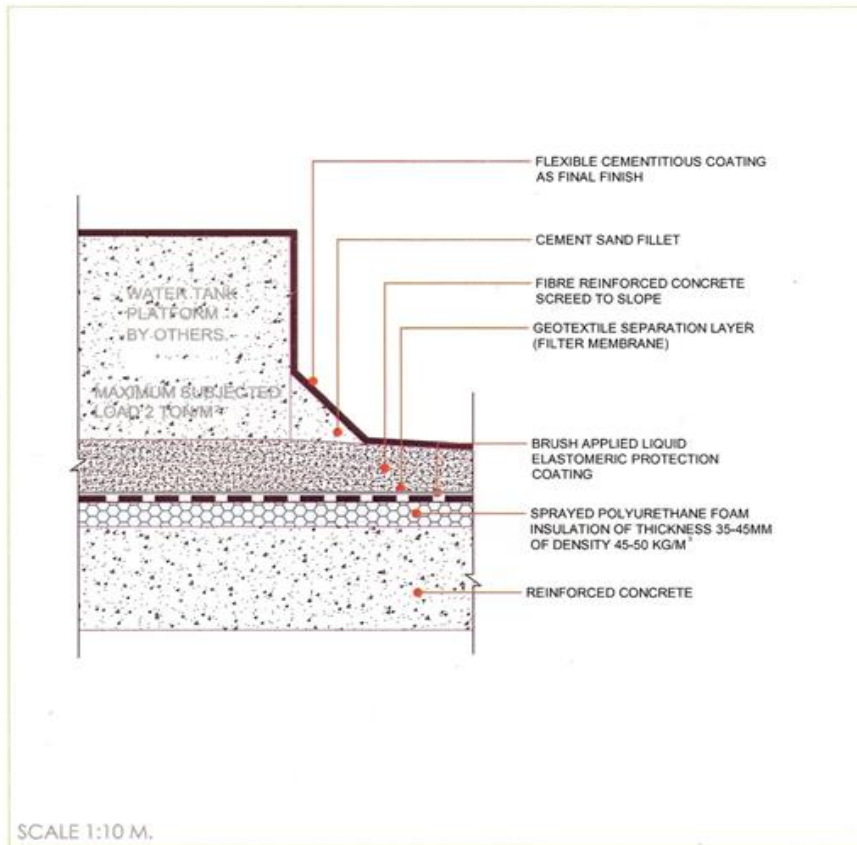


## Expansion Joint W/P Details

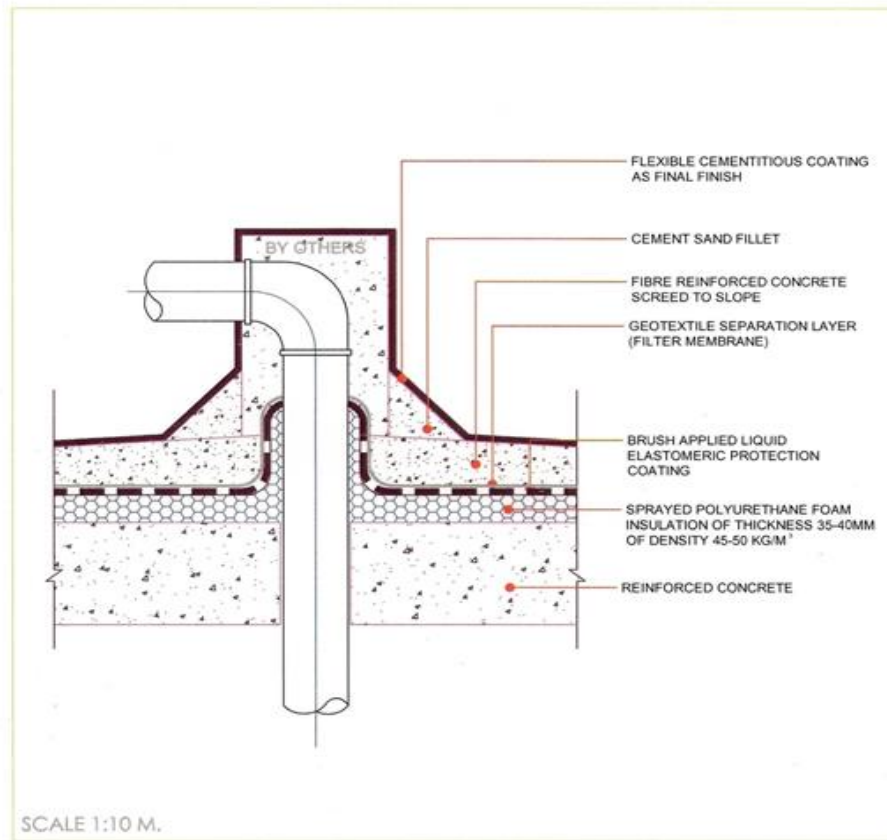




## Water Tank Platform



## Pipe Penetration Details



## Schedule

S.N	Roof 400 SQM											
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11
1	<b>Phase-1</b>											
1.1	PU Foam											
1.2	Protection base Coating											
1.3	Water Test											
1.4	Geotextile & Ridges											
1.5	Screed Concrete											
1.6	Curing											
		<b>MEP installation on roof by Main Contractor</b>										
2	<b>Phase - 2</b>											
2.1	Angle Fillet											
2.2	Fabric Reinforcement											
2.3	Joint Treatment											
2.4	Final Coat											

# BASF STANDARD ROOFING SYSTEM

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The Chemical Company

*Portfolio of Diversity...*

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