MCA Liverpool

EXTERNAL WORKS

Schedule of Works REV 2

01
AUGUST 2019

CONFIDENTIAL

MCA Liverpool

EXTERNAL WORKS

Schedule of Works

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70050786

OUR REF. NO. 01

DATE: AUGUST 2019

WSP

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Tyndall Street
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WSP.com

	MCA REFERENCE TCA 3/7/1118: REPLACEMENT ROOF AND RENDER AT MCA LIVERPOOL, HALL ROAD WEST, CROSBY, L23 8SY.	
	ACTIVITY SCHEDULE	**Firm Cost £ (Exc VAT)**
A	**GENERAL CONDITIONS**	**£**
A.1	This Schedule of Works is to be read strictly in conjunction with the suppliers specifications and drawings. Any discrepancies should be reported to the PM. Please note that dimensions/quantities as shown in this document are only approximate and should be checked on site by the Contractor. Any discrepancies should be reported to the PM.	Note
A.2	In pricing these works, it is deemed that tenderers have visited site. Tenderers must price each item listed in this document, where the price quoted is the total cost of completing that element of work and inclusive of all enabling, installation and making good works, unless otherwise defined. The materials provided and installed must be those specified by the supplier. Contractor to allow to pre-order all necessary equipment and materials and arrange for its availability when needed in accordance with the specification in connection with all works. The Contractor must confirm, to the PM, the lead in times regarding the following materials: All products associated with the: · EWI; · Render; · Roof; · External joinery; · Rain water goods. This information is required <u>within this tender document</u>, for consideration by the PM and employer and dates must be confirmed during the pre-start meeting.	Note
A.3	The Contractor is to price each item separately.	Note
A.4	The Contractor is to include in his price for all associated works inferred or implied, to comply with good working practice.	Note
A.5	Nothing contained within the specification is intended to invalidate any British Standard or Performance Certificate. Unless otherwise agreed with the PM, British Standards and Agreement Certificates shall prevail - the Contractor shall draw to the attention of the PM any discrepancies.	Note
A.6	The drawings are intended as a guide only. All measurements / dimensions to be obtained from site including with due regard to fixing tolerances. All queries to be directed to and a response given by the PM prior to works commencing on site.	Note
A.7	All works are to be in accordance with the relevant parts of this schedule. The Contractor is deemed to have read and become familiar with areas of the works prior to starting on site.	Note
A.8	Prices are to include for removing all rubbish debris and waste arising from the works and site and for disposing of to a suitable Local Authority registered tip. This should include for all skip and waste disposal charges and all associated parking permits. A copy of all waste disposal certificates should be given to the PM following completion of the works.	
A.9	The Contractor is to limit his area of operation, at any given time, to those areas associated with the works in hand, at that stage in the works programme. NOTE - The Contractor will be required is to supply more labour to the project in order to meet the completion date at no additional charge, if works fall behind programme or poor weather conditions are experienced.	Note
A.10	Unless stated within the description for a particular item of work, all works are required to be carried out within normal working hours. Normal working hours are 8:30am and 5:00pm. Works outside normal hours and at the weekends are to be carried out by prior arrangement with the PM.	Note

A.11	Where noisy work is to be carried out, prior planning and agreement should be coordinated with the PM to ensure disruption on site is kept to an absolute minimum. No noisy work shall be carried out outside the times permitted. The Contractor is to obtain details of such permitted times before works commence.	Note
A.12	Where an item of work is identified as being a 'Provisional Sum' these may be expended in full or in part as directed by the PM and will be deducted from the final account.	Note
A.13	Where defined provisional sums for works are identified, adequate allowance shall be deemed included in prices for all such works in terms of programme, time, plant costs and on/off site management and supervision costs.	Note
A.14	Where there is conflict or duplication between the requirements of the supplier information and the schedule of works then the Contractor should seek guidance from the PM.	Note
A.15	The Contractor is to allow for detailed phasing and co-ordination on site, the works shall be undertaken to all areas and consultation must be taken between the building occupier and the contractor so the works programme does not impact on any programmed MCA activities. The Contractor should have due regard to safe and good working practice.	
	Pre-ordering of materials and equipment	
A.16	Contractor to allow to pre-order all necessary equipment and materials and arrange for its availability when needed in accordance with the specification in connection with all works.	
	Services	
A.17	The Contractor shall be responsible if required, for ensuring that the electricity, gas and water supplies are inspected, tested and made safe by suitably qualified professionals, i.e. NICEIC Approved Electrical Contractor and Gas Safe Registered gas engineer before associated works commence. The Contractor is to provide test certificates and describe the works that were undertaken to achieve the above. The Contractor shall be responsible for all necessary artificial lighting and power for the correct execution of the works and may be required to pay for all electricity consumed. The Contractor shall also ensure that all supplies of artificial lighting and power are terminated following completion of the works informing the PM in writing with copies of all relevant termination notices to the appropriate Electricity Board. The Contractor shall be responsible for ensuring that all aerials, cables and / or fittings connected to the outside of the building, (e.g. B.T. cables, satellite television dishes or signage) are removed / repositioned as necessary Where works affect any such fixtures to or supplying adjacent properties, which could be affected by the works or the erection of scaffolding, should also be repositioned and / or protected as required by the adjacent occupier. Any aerials, cables and / or fittings so re-positioned shall be refitted to their original position on completion of the relevant works. The Contractor shall coordinate with all relevant suppliers of services regarding all necessary disconnection and re-connection of services, data supplies relating to works. Also allow for all costs associated.	
A.18	The Contractor is to take on the role of the Principal Contractor in accordance with the CDM Regulations 2015. The Contractor must submit a copy of the Construction Phase Plan at least one week prior to the commencement of the works, containing all necessary risk assessments and method statements for the safe execution of the works.	
A.19	The Contractor must provide welfare facilities. Space will be provided for the Contractor's site office, arrangements to be confirmed during the contractors open day. Contractor is to allow for a generator for power to site cabins. The Contractor should allow for providing all necessary guarding barriers, notices, warning signs, hazard tape and PPE as necessary for the safe execution of the works to be detailed more fully within the Contractor's Construction Phase Plan.	

	Any internal areas that are to be used by the Contractor must be maintained and cleaned to a proper and reasonable standard. The Contractor shall also undertake a thorough deep clean of all areas accessed and used during the programme of works.	
	Schedule of condition	
A.20	The Contractor will provide a schedule of condition with photos of the site, to be agreed prior to starting any works on the site. Schedule to include all areas of the site and building that may be accessed by the Contractor during works. This is to be agreed at the pre start meeting.	
	Co-ordination of works	
A.21	The Contractor is to allow for reviewing the Health and Safety Information and Operation and Maintenance manuals held by the client.	
A.22	The Contractor is to ensure the specification for all items has been thoroughly read and understood.	
A.23	The Contractor must programme all works to achieve completion within the designated Contract Period. The Contractor is to provide a detailed bar chart programme in MS Project and pdf version, clearly showing the activities to be undertaken and identifying the tasks on the critical path, within 5 working days of request.	
	Initial Draft Programme, in Gantt chart form, including all lead-in times to be provided with Tender Return Documents.	
A.24	Execute works in a logical sequence to avoid damage to the sound existing items of plant.	Note
A.25	The Contractor must ensure that if any work site herras fencing and site access is used that it is made secure at the end of each day.	
A.26	Skips must be the enclosed lockable type and should be kept a safe distance from the building. Ideally within the site compound area, if one is provided.	Note
A.27	Where materials are specified by Manufacturer's name, a full set of the Manufacturer's instructions are to be retained on site and it is the Principal Contractor's responsibility to ensure that these are strictly observed at all times. Bring to the attention of the PM any discrepancy between the specification and any instructions that are contrary to the Manufacturer's recommendations.	
A.28	Interim payments will be certified in accordance with the contract, on a percentage basis of works completed in relation to the Contract Data.	Note
A.29	PC to allow for management and co-ordination of all other contractors.	
A.30	The Contractor is to confirm hourly labour rates. These rates are applicable for 90 days following receipt of this tender by WSP for analysis. These items are not to be included within the tender submission sum and are only for reference where extra works are required;	Note
	Day Rates - Labour	
A.31	The contractor is to allow his all-in rate for labour inclusive of all associated costs and overheads; profit and attendances. These rates will be used for information only and for calculation of ant future compensation events. Provide hourly rate.	
	Carpenter	
	Roofer	
	Glazer	
	Painter and Decorator	
	Lead worker	
	Plumber	
	Electrician	
	Labourer	
	Plant	
A.32	The contractor is to allow a percentage against the amount inserted against Plant used for dayworks. To be adjusted against the RICS Schedule of Plant Charges.	
	Provide Contractors allowance percentage on plant.	
	Materials	
A.33	The contractor is to allow a percentage against the amount inserted against Materials used for dayworks.	
	Provide Contractors allowance percentage on materials.	

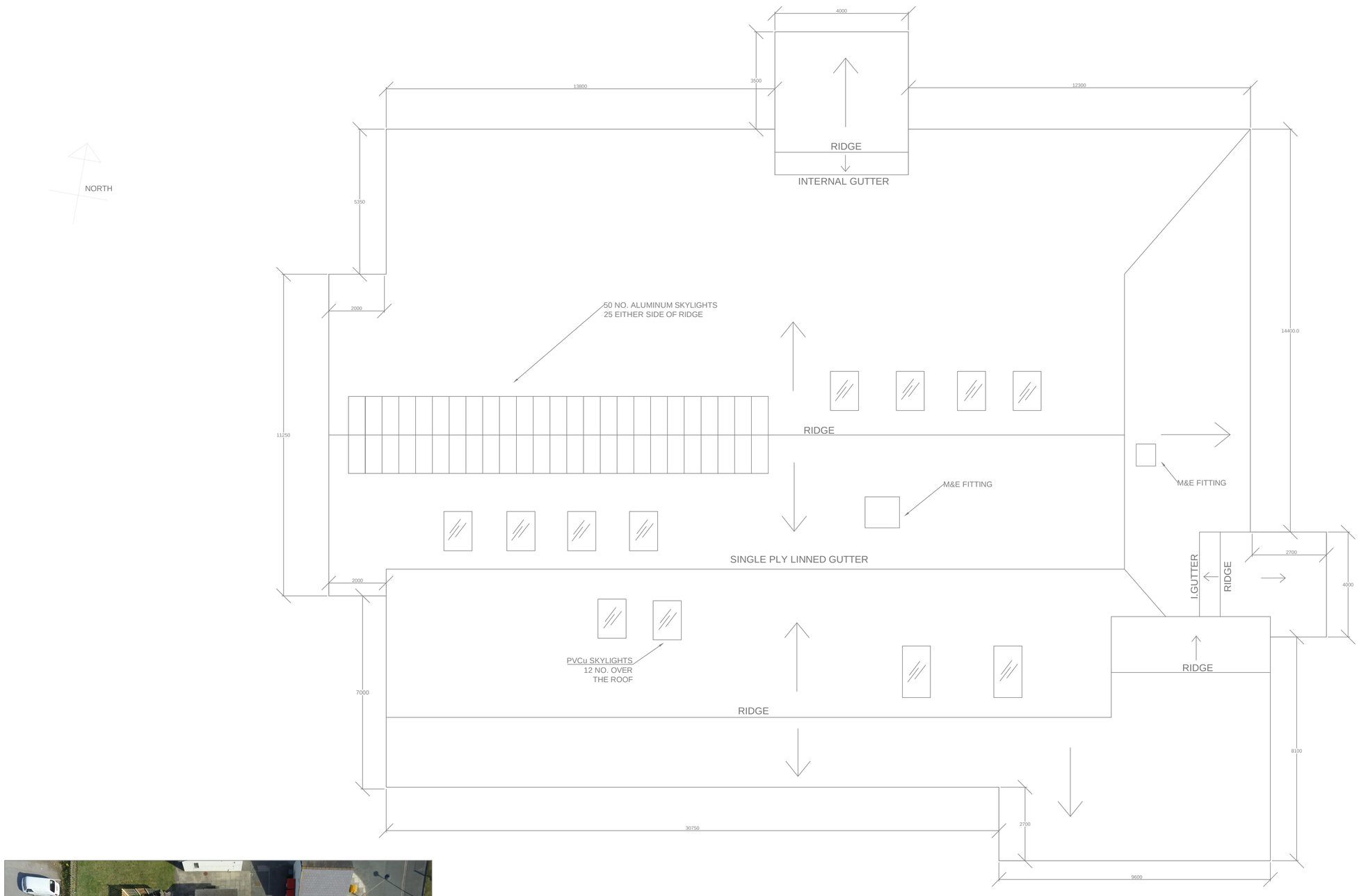
	OH&P	
A.34	Allow for all overheads, profit and preliminaries associated with undertaking the works.	
A.35	Allow for maintaining a full time working foreman on-site for the full duration of the works to effectively programme labour and resources and receive instructions from the CA/PM, in full accordance with the Contract Data/Works Information.	
A.36	The works will be undertaken in accordance with the NEC3 Engineering and Construction Contract, Option A.	Note
	SECTION A TOTAL	
B	**ACCESS**	
B.1	The Contractor is responsible for ensuring that scaffold is suitable for the works and meets with the Construction (Health Safety and Welfare) Regulations 1996 (as now incorporated into the CDM Regulations 2015) and to the satisfaction of the PM.	Note
B.2	The Contractor is to allow for all necessary edge protection etc. to be supplied and fitted to ensure the protection of the work force, public and users of the building.	
B.3	All scaffolding is to be fully boarded at all times, with kick boards fitted to all elevations of all landings. (Access ladders to be removed and stored in a secure location at the end of each working day, to prevent access by the public). Access ladders are to be fully secured to the scaffold whilst in use.	
B.4	Protect scaffolding and access equipment from unauthorised access throughout the duration of the works. Contractor to provide a scaffold alarm to the tower used.	
B.5	The Contractor is required to provide a tender stage method statement in respect of safe access provision for the roofing works.	
B.6	The scaffolding will comply with the following requirements:- · The British Standard Code of Temporary works equipment. Scaffolds. Performance requirements and general design to BS EN 12811-1:2003. · BS 5974:2017. Code of practice for the planning, design, setting up and use of temporary suspended access equipment · All enactments, regulations and working rules relating to Safety, Health and Welfare.	Note
B.7	All works specified externally are to be carried out from scaffolding access. All other temporary access equipment required to enable the specified works to be progressed must be provided by the Contractor at their own cost and as required. Where alternative access equipment is to be used the Contractor shall submit relevant risk assessments and method statements for review by the PM and PD at least 5 working days before the equipment is to be used on site.	Note
B.8	Scaffolding shall not be dismantled until the PM has carried out snagging and de-snagging.	Note
	SECTION B TOTAL	
C	**SECURITY AND PROTECTION**	
C.1	Provide and maintain all necessary protection, barriers, warning signs etc. around the works.	
C.2	Provide and maintain adequate protection to surfaces and surrounding areas of the works that are to be retained, and reinstated to original condition upon completion. The Contractor is to ensure that areas are clean and tidy at the start and end of each working day.	
C.3	Ensure that all building materials and waste arising from the site are stored appropriately within the boundaries of the site compound. The Contractor is to ensure that all materials or waste is stored securely. Ensure that all waste is removed from site on a weekly basis.	
C.4	Existing road and other surfaces including soft landscaping, must be carefully worked around. All damage is to be reinstated to original condition.	
C.5	Maintain suitable security internally to prevent unauthorised access to the building and works area on completion of the works each day. Access to be agreed and approved with the PM at the pre-start meeting.	
	SECTION C TOTAL	
D	**ROOF COVERING**	
D.1	The Contractor is to familiarise themselves with the roof schedule of works and the Cambrian product data sheet. Contractor to submit a price for the system specified in Appendix C and D. Total area of roof circa 800sqm. Note - exact meterage to be confirmed by contractor at tender stage and any discrepancies highlighted immediately to the CA.	

D.2	Insulate between rafters where no roof space is present. Contractor to allow for 50mm insulation board between rafters with a 62.5mm insulated plasterboard fixed to rafters and finished with a plaster skim.	
D.3	Insulation at ceiling level to be 100mm Rockwool insulation laid between ceiling joists with a further 170mm laid over joists (cross direction) in all roof voids circa 300sqm.	
D.4	Extend the roof at the gable ends to increase the verge soffit by 200mm to allow EWI to be covered beneath.	
D.5	Allow the Provisional Sum of £750.00 to undertake a full survey of Patent glazing and rooflights.	£750.00
D.6	Provisional sum for replacement/repairs of Patent glazing and rooflights, requirement not confirmed.	£30,000.00
D.7	Allow the provisional Sum of £1,000.00 for replacing or inserting/strengthening any additional roof timbers.	£1,000.00
D.8	Allow provisional sum for tapered insulation to secret gutter.	£1,000.00
D.9	Contingency sum for unforeseen works, only to be expended at discretion of CA.	£1,000.00
	SECTION D TOTAL	
E	**EXTERNAL WALL INSULATION**	
E.1	The Contractor is to familiarise themselves with the Stormsheild PPG specification in appendix A. Contractor to submit a price for the system specified. Total area of external wall circa 450sqm. Note - exact meterage to be confirmed by contractor at tender stage and any discrepancies highlighted immediately to the CA.	
E.2	Please provide cost per sqm for system specified.	
E.3	To external walls of the main building, carefully hack off all areas of blown render so as to cause as little damage to the external leaf of masonry. Rake out loose pointing and brush down substrate and make good affected masonry. Apply a sand: cement render in accordance with BS:5262, to hacked off areas, to create even surface to allow the EWI to be installed. Allow for 10 sqm. This rate will be used to determine total cost once area has been agreed. Contractor to liaise with Stormshield PPG representative to agree on adequate surface before EWI is installed. Contact: Matt Gilliand - 07580 809 200 - gilliand@ppg.com	
E.4	The EWI contractor is to be selected from the list of approved Johnstones Stormsheild PPG contractors found in Appendix B.	Note
	SECTION E TOTAL	
F	**ADDITIONAL WORKS**	
F.1	External Services- Allow to carefully remove all M&E services prior to the EWI and then for refitting in the same location after EWI installation. M&E items include but are not limited to: CCTV units; Lighting; Lightning Strip; External pipework from M&E units.	
F.2	Cut back overgrown vegetation around condenser unit and remove from site.	
F.3	Allow to cut a channel around the existing concrete slab, circa 400mm wide and 6 Lm in length (150mm deep). All rubble to be removed and disposed of and the surface made good ready to receive gravel as a soak away. Gravel to be supplied and laid circa 75mm deep.	
F.4	Allow for removal of all external 'MCA' signage and all other building fabric fittings and refitting following render works.	
F.5	Allow a cost for the installation of new 'HM COASTGUARD' lettering signage, to match existing.	
F.6	Allow for the coordination with M&E contractors to remove and refit all M&E services/items prior to and following the render and roof works.	Note
F.7	Allow for the coordination with the internal refurbishment contractor including but not limited to the positioning of the new window, air transfer grills and Louvre in WC external wall and 4no. roof cowls in the roof including ductwork.	
F.8	Replace glazing to windows where seal has blown. All glazing should conform to the recommendations given in the relevant part of BS 6262 and in BS 8000-7. In addition, any glass or insulating glass unit manufacturer's instructions should be followed.	
	SECTION F TOTAL	

G	**HANDOVER AND COMPLETION**	
G.1	Remove silt and debris to roof gutter, jet through and leave clean and free flowing upon completion.	
G.2	Upon completion, the Contractor is to clear away all debris from the site, clean all floors where internal works were undertaken and generally leave the premises internally and externally in a clean and tidy condition ready for use by the tenant and to the satisfaction of the PM.	
G.3	Prior to the presentation of the roof as 'Complete', the Principal Contractor must provide all Test Certificates (plus any applied documents), the Health and Safety file (to include residual risks, consultants used, Contractors used etc. as per the PD) and any as built drawings to the PM.	
G.4	Contractor to include for compilation of O&M Manuals in the form of hard copy and electronic.	
	SECTION G TOTAL	

COLLECTION PAGE – Schedule of Work/Activity Schedule

	Description	
	Section A - GENERAL CONDITIONS	
	Section B - ACCESS	
	Section C - SECURITY AND PROTECTION	
	Section D - ROOF COVERING	
	Section E - EXTERNAL WALL INSULATION	
	Section F - ADDITIONAL WORKS	
	Section G - HANDOVER AND COMPLETION	
	TOTAL TO PRICE LIST	



DO NOT SCALE

NOTES:
ALL DIMENSIONS ARE TO BE CHECKED ON-SITE BY THE MAIN CONTRACTOR PRIOR TO PURCHASE OF MATERIALS OR EQUIPMENT AND COMMENCEMENT OF WORKS.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELATED DRAWINGS, OTHER PROJECT DOCUMENTS & THE ACTIVITY SCHEDULE. ANY DISCREPANCY MUST BE REPORTED TO THE ORIGINATOR AND PROJECT MANAGER.

IT IS THE MAIN CONTRACTORS RESPONSIBILITY TO CO-ORDINATE AND LIAISE WITH ALL OTHER TRADES AND DISCIPLINES.

REV	DATE	BY	DESCRIPTION	CHK
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DRAWING STATUS: TENDER ISSUE

CLIENT: MARITIME & COASTGUARD AGENCY

ARCHITECT: N/A

SITE/PROJECT: MCA CROSBY
REFURBISHMENT WORKS
L23 8SY

TITLE: ROOF LAYOUT

SCALE @ A1:	CHECKED:		APPROVED:
N.T.S	–		SKB
PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70050788-002	SKB	SKB	02 AUGUST 2019

DRAWING No: CROS - BS - 006 REV: P01

Appendix A

EWI SPECFICATION

PPG EWI & Render Technical Specification

STORMSHIELD
EWI & RENDER

PPG

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Project
HM Coastguard, Crosby
90mm Enhanced EPS BBA Certified EWI Installation

Client Reference
HM Coastguard
32 Hall Road W
Crosby
Liverpool
L23 8SY

PPG Reference
SPEC/5032638

Prepared for
Simon Budd & Gareth Taylor
WSP
3rd Floor
Capital Quarter
Tyndall Street
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CF10 4BZ

Written by
Robin Westbury
EWI Technical Sales Manager
07870 264716
wsetbury@ppg.com

Date
Wednesday, 14 August 2019

HM Coastguard Liverpool

Johnstone's Stormshield External Wall Insulation System Specified

Substrate: **Rendered Concrete Blocks**

Insulation: **90mm Enhanced EPS**

Finish: **Johnstone's Stormshield Full Silicone Render 1.5mm**

Finish Colour: **TBC**

Bespoke detailing: YES ☐ NO☒

Fixing test report: YES ☐ NO☒

Thermal report include: YES ☐ NO☒

Wind load Calculation: YES ☐ NO☒

Altitude: **10m above sea level**

Wind speed: **25miles**

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E ppgextra@ppg.com
W johnstonestrade.com

Specification Preliminaries

This Specification is issued by PPG Architectural Coatings UK Limited (the "Seller") to **"WSP"** ("Recipient") in connection with the Specification & possible sale of the external wall insulation system and component parts of such system ("EWI").

While the information in this Specification has been prepared in good faith to the best of our knowledge and belief, any recommendation contained in this Specification is only provided for guidance. The Seller (and any third party that provides a recommendation) is a supplier of EWI and is not an expert or professional advisor in relation to engineering, architectural, building or other related fields. The Seller only provides (or obtains from third parties) recommendations based upon a preliminary analysis of the Property.

The Seller reserves the right to amend the Specification where necessary to comply with any applicable statutory, regulatory or safety requirements.

The Recipient must satisfy itself that its requirements are met by any recommendations in this Specification and if necessary it should procure advice from an appropriate engineering, architectural, building and/or other expert as to the appropriate combinations of EWI products. The Seller is not liable (including in negligence) if this Specification does not meet the Buyer's requirements.

Any sale of EWI is subject to the Seller's Standard Conditions of Sale and Supply and the Special Conditions for the Sale and Supply of External Wall Insulation, together with any express terms set out in this Specification.

1. Careful attention must always be paid to safety procedures during application, in particular to the Health & Safety at Work Act, Control of Substances Hazardous to Health (COSHH) Regulations and Working at Height Regulations (WAHR).

2. Ensure that any works involving the preparation and treatment of surfaces which contain asbestos are carried out in accordance with The Control of Asbestos at Work Regulations 1987 (Amended 1992 and 1997).

3. Please note that if this specification is not fully adhered to, either by yourself, or a third party, PPG Architectural Coatings UK Limited will not accept any liability for any future technical issues or system failures resulting from deviations from the specification.

4. Any attached test reports for fixings, anchors or thermal calculation reports have been created at client request and carried out by a third party. PPG accepts no liability for the content of any pull test reports contained within this specification.

5. If there is any doubt about any aspect of this specification, it must be brought to the attention of the specifier prior to the commencement of any works.

6. Any changes to the specification must be agreed to by PPG Architectural Coatings UK Limited and specification documents amended and reissued before any works commence.

7. It is the responsibility of the application contractor to fully familiarise themselves and their application teams with all of the materials and application requirements contained in this specification and the Johnstone's Stormshield External Wall Insulation Application Guide.

8. All works must be undertaken by Johnstone's Approved External Wall Installation Appliers. For further information or to join please call 01924 354354.

9. This document and all associated application literature must be read and understood in full before the commencement of any works.

10. The condition of the substrate and any existing coatings may deteriorate if application is deferred. Therefore this specification is only considered valid for a period of 6 (six) months following date of issue.

11. Weather conditions for the application and drying of Johnstone's Stormshield External Wall Application Systems are critical. See general conditions, application guide and product data sheets for additional information.

Project notes

- It is understood that the roof will also be refurbished and extended to provide a 40mm overhang over the completed External Wall Insulation works.
- Generally windows are changed on major refurbishment schemes as part of the works. If windows are to replaced-they should be installed flush within the aperture and not set back. New window cills should be 150mm in depth.
- If the windows are not being changed then I have allowed for 140mm overall aluminium under-cills to be installed as part of the EWI works with End Caps.
- All flues must be surrounded by 150mm Dual Density Rockwool insulation.
- Hammer test all existing render and remove as necessary. Patch in render using Stormshield One Coat Render – SAP 738573
- For fixing **HM COASTGUARD** and other external elements use Ejot Iso Dart 100 (boxes of 10) SAP 640041

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SAP Code/Product		Materials	Size
Cleaning & Preparation			
736949	Fungicidal Wash	Mangers Fungicidal Wash	2.5 Litres
301630	Stabilising Solution	Stabilising Solution- White	5 Litres
Tracks & Trims			
737621	Basetrack	Aluminium basetrack/ box base, 2.5 metre	90 mm
737642	Clip on nose	Box Base clip on PVC nose WITH MESH, 2.5 metre	6 mm
737808	Basetrack fixings	EJOT NKU Hammer 45mm	100 box
738464	Basetrack Joint Clips	Base track joint clips	100 bag
	Full system stop profile		
	Verge Trim	1.2mm Aluminium White Verge, 2.5 metre	
N/A	Verge Trim Connectors		
737667	Undercill	1.2mm Aluminium White Undercill, 2.5 metre	115 mm
639968	Compressible tape	Compressible Seal 10M	1 Each
737443	Silicone sealant	Everbuild Tecnic Silicone Sealant - trade size	380 ml
See other accessories for End Caps and External Angles			
Insulation & Fixings			
737956	Panel Adhesive	Johnstone's Stormshield Insulation Panel Adhesive	25 Kg
649636	Main Wall	Lambdatherm 70E 90mm	1200x600 mm
	Reveals		
737758	Insulation Fixing	H1 Eco 155mm (max 120mm insulation)	100 box
Renders			
737957	Basecoat	High performance Render Basecoat	25 kg
737420	Mesh	Render Reinforcing Mesh Cloth	1.1x50 metres
Beads & Trims			
737706	Angle bead	White Plastic Angle Bead with MESH , 2.5 metre	- mm
737689	Stop bead	White Plastic Stop Bead , 2.5 metre	6 mm
	Angle Bead		
737673	Expansion joints	White Plastic Expansion Bead, 2.5 metre	6 mm
737707	Reveal Bead	Adhesive Backed, mesh wing reveal bead, 2.5 metre	6 mm
Decorative Finish			
308158	Primer	Full Silicone Primer *Colours	25 kg
308160	Finish coat	1.5mm Full Silicone Render *Colours	25 kg
Other Accessories			
737444		Soudal Fix All Gun Grade PU Foam	750 ml
738495		Undercill End Caps to Suit	Pair
737720		Rockwool Mineral Wool 90mm Dual Density	1200x600mm

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JOHNSTONE'S TRADE

STORMSHIELD EWI & RENDER

System Details

Fire Break Detail

- Any EPS (polystyrene) or phenolic insulation systems that are installed on buildings that go over 2 stories high must contain a firebreak at second floor ceiling / third floor level and the system must not be installed over the 18 meter high restriction set down by the BBA certification for the system.
- Firebreaks consist of a continuous layer of lamella mineral wool (supplied in 200mm x 1000mm panels) which are adhesively fixed at the required locations using Johnstone's Insulation Panel Adhesive (making sure 100% of the surface is covered) and fixed to the substrate and allowed to dry.
- The location of firebreaks which can be specified for installation both horizontally and vertically to prevent the spread of flame should be outlined and submitted by the contractor to the relevant client building control department for approval before completing the works.
- Once the first pass of Johnstone's High Performance Basecoat has been applied and the render reinforcing mesh cloth has been bedded into the material, drill through the lamella fire break every linear meter and insert a fire fixing and hammer home flush with the surface (there must be at least one fire fixing per lamella insulation panel).
- Cut standard mesh cloth to 150mm squares and embed this over the head of the fire fixing using the basecoat and then continue to apply basecoat (second pass) and specified finishes as per the standard method.
- In addition to the fire fixing in the lamella firebreak, additional fire fixings should be installed in the same way throughout the EWI system at 1 fire fixing per M2 to the entire surface area above the first fire break.

Preparation of Masonry Substrates

- Johnstone's Stormshield External Wall Insulation Systems can only be applied to suitably prepared masonry substrates that are stable, clean, level and free of surface contamination.
- A full survey of the building may be required to be carried out by the relevant bodies prior to the application of any Johnstone's Stormshield System to confirm its suitability.
- If the condition of the substrate is not suitable any issues must be brought to the attention of PPG Architectural Coatings and addressed prior to system application.
- All cracks or damage to the substrate must be assessed and repaired.
- All services, fixtures and fittings attached to the substrate must be surveyed and removed to facilitate installation of the system by qualified personnel and only reattached in line with the Johnstone's Stormshield application guide.
- All masonry substrates must be level and in line prior to system application. Do not bridge surface imperfections with insulation panels or attempt to dub out large areas with insulation panel adhesive or basecoat. Use a suitable dubbing render and apply as per the product specification.
- All surfaces should be thoroughly cleaned down to remove any dirt or surface contaminants and allowed to dry prior to application.
- Any areas of existing render should be hammer tested and any defective areas hacked off until a solid substrate is achieved.

- Apply a suitable fungicidal wash to all areas subject to algae lichen or other contaminants as per the product instructions.
- On chalky, porous or areas of uneven suction it may be necessary to apply Johnstone's Stormshield Stabilising solution to the substrate to bind the surface and provide a strong, suitable key.

Scaffolding

- Scaffolding should be independent of the building to prevent visible breaks in the finish where areas of scaffolding have been worked around.
- Scaffolding should cover the whole elevation of the building to allow for uninterrupted application to prevent finish differences or 'day joints'.
- Scaffold should allow suitable access to the whole elevation to prevent different application methods or angles creating visible differences in the finish
- All scaffolding should be carefully removed after completion of works to prevent marking or damage to the system.

Application of Base Rail & System (Verge, Cill and Stop) Profiles

- Apply Specified System Profiles with Specified Profile Fixings. Fully secure the Profiles with centres no more than 300mm apart.
- To comply with PAS 2030 a compressible sealing tape is required to the back of the base track
- Ensure sufficient fixings are used for smaller sections of Profile and always endeavour to use the longest pieces of profile possible.
- Base Rail must be installed above property DPC and all Profiles must be fixed straight and level.
- Do not bend or warp System Profiles to substrate if uneven- use packing shims and seal all gaps to substrate with specified silicone mastic.
- Allow a 2mm expansion gap between all sections of System Profile and seal all gaps to substrate with a suitable low modulus silicone mastic.
- If profiles specified feature a clip on plastic nose this should be fitted to bridge all joints between sections of System Profile.
- Always wipe product from exposed faces of profiles before it dries to avoid unsightly stains/ marks.
- Ensure all system profiles are applied to prevent any water ingress into system. Joints in verge, stop and cill profiles may need covering with a suitable capping piece to achieve this.

Insulation Material

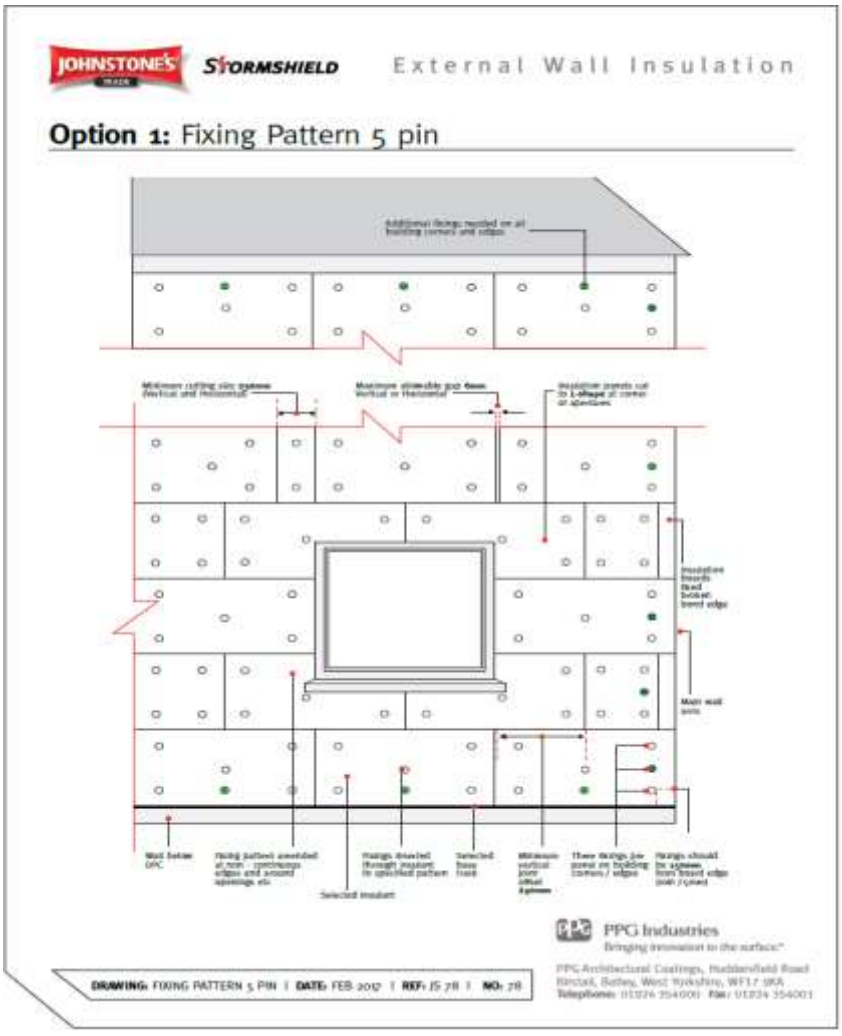
- Specified Insulation material must be stored, handled and installed as per the specification.
- Damaged insulation panels should be discarded.
- Plan application of insulation panels carefully to avoid using small offcuts.
- Extra care should be taken when fixing panels at building stress points such as reveal corners and quoins. Always use an L shaped piece of insulation around window and door corners. Avoid using small pieces of insulation in these locations.

- Avoid gaps between insulation panels. Small gaps (<6mm) can be filled with the specified insulation gap filler. Larger gaps will require panel to be removed and recut.
- Gap filler must be allowed to cure and then cut flush to insulation board face.
- Insulation panel faces must be flush and even prior to application of basecoat.

Insulation Panel Adhesive

- Mix and apply Johnstone's Stormshield High Performance Insulation Panel Adhesive to the back of the insulation panels as specified in the application guide (at approx. 4kg/m²). Apply panels to masonry using a twisting and pushing motion to ensure strong adhesive to substrate transfer. Allow adhesive to fully set before applying basecoat to insulation panels.

Fixing Pattern



Please note that additional fixings are required at external corners.

Insulation Panel Fixings

- Always use the specified insulation panel fixing/ anchor.
- Apply insulation fixings to the system configuration.
- Additional fixings will be required at stress points on the building such as around window and door reveals and on building quoins / edges. Generally additional fixings are required in the centre of the regular fixing pattern in the in the insulation boards horizontally and vertically on the perimeter edges.
- Refer to the application guide for further information.

Basecoat and Reinforcing Mesh Cloth

- Mix and apply Johnstone's Stormshield High Performance Basecoat as per the product instructions to the face of the fixed and finished insulation panels.
- Apply first pass of material to a depth of 3-4mm, notch horizontally and incorporate Johnstone's Stormshield Render Reinforcing Mesh Cloth into the basecoat.
- Always ensure a 100mm overlap between all sections of Mesh Cloth and use reinforcing patches where required at building stress points. Reinforcing patches should be applied over the main Mesh Cloth and should be a minimum of 250mm square.
- Allow first pass of Basecoat to 'take up' and stiffen before applying a second pass of material.
- Apply a second coat of Basecoat to a depth of 2-3mm over the first coat. All traces of Mesh Cloth must be covered by the second layer of material.
- Ensure a level and even surface to the basecoat across the application using suitable tools.
- Finish basecoat with a comb to create a keyed finish.
- Allow basecoat to fully cure before applying finishing coats.

Silicone Enhanced or Full Resin Silicone Render Primer

- Apply Johnstone's Stormshield Silicone Enhanced Primer or Full Silicone Render Primer to the fully cured and hardened Basecoat with a paint brush, roller or suitable spray equipment.
- Completely cover the basecoat with primer to ensure there is no contact between Basecoat and finish. No traces of basecoat should be visible on completion.
- Allow to fully dry before applying selected finishing render.

Silicone Enhanced or Full Silicone Render

- Apply Johnstone's Stormshield Silicone Enhanced or Full Silicone Render only after Primer has been applied and is fully dried.
- Ensure render product is well mixed and check colour consistency and batch numbers before application.
- Attempt to apply with a continuous wet edge to a natural break to prevent visible 'day joint'.
- Apply product with a stainless steel trowel and finish with a plastic float.
- Render should be finished with a plastic float by rubbing down to aggregate size. For example 1.0mm render should be applied to a film thickness of 1mm and 1.5mm render to a thickness of 1.5mm.
- Do not leave thicker layers on substrate as this may cause cracking at a later stage. Take extra care to remove excess material around reveals and corners.

- Ensure a test panel is applied and the colour and finish has been fully approved prior to commencing large scale application.
- In damp or humid conditions silicone renders may become touch fry before they have fully cured. Always take care to protect the surface until it has fully cured.

Render & Movement Beads

- Only use the render and movement beads on the system specified in this document and supplied by Johnstone's.
- All beads should be placed and fixed as detailed on Architect's drawings or System Manufacturer's details. Refer to application guide for standard system detail drawings.
- Fix beads in place until basecoat hardens with fir tree fixings if required.
- Always wipe product from exposed faces of beads before it dries to avoid unsightly staining and marks.

Accessories

- Johnstone's supply a range of accessories selected for their suitability. We recommend that you obtain your sheeting and protection materials, sealants and foams from PPG to ensure compatibility and performance.

Product Storage

- Bagged powder products such as Johnstone's Stormshield Insulation Panel Adhesive, Render Basecoat and Dash Receiver must be stored off the ground and protected from water or sources of damp.
- Johnstone's Stormshield powder products contain cement and are highly sensitive to damp. Any damp or moisture ingress to the powders prior to use may make them unsuitable for use.
- Stored under proper conditions, Johnstone's bagged products have a shelf life of 12 months.
- All Johnstone's Stormshield products must be stored frost free and protected from extreme heat.
- Insulation panels must be protected from rain and physical damage. Factory packaging does not provide a level of protection which would allow the materials to be stored outside.
- Care should be taken in the handling and storage of all Johnstone's Stormshield External Wall Insulation materials in line with the product datasheets.

Application & Drying

WEATHER CONDITIONS FOR THE STORAGE, APPLICATION AND DRYING OF JOHNSTONE'S STORMSHIELD EXTERNAL WALL APPLICATION SYSTEMS ARE CRITICAL.

- Drying times will vary significantly depending on wind, temperature and humidity and may take longer than specified or indicated in adverse conditions.
- Do not work with frosted materials or on frosted substrates.
- Do not apply in temperatures below 5°c or when the temperature is forecasted to drop below 5°c for a period of at least 24 hours after application.

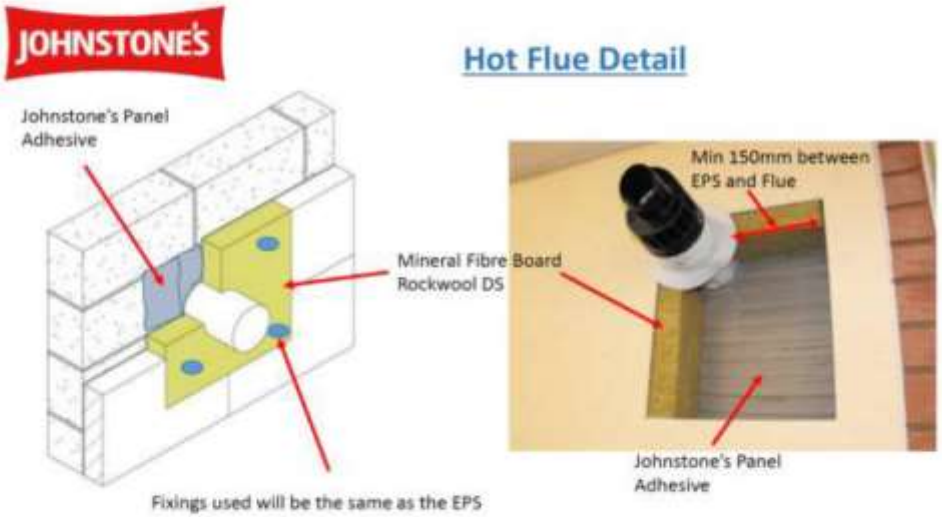
- Do not work in high temperatures or on surfaces directly exposed to strong sunlight. Do not apply to surfaces that are hot to the touch.
- Do not work during rainfall or if rainfall is anticipated within 24 hours following application.
- Do not apply materials if relative humidity is above 85% and note that damp or humid conditions will impact on drying and curing times.
- Do not allow rain or water run off to strike newly applied material until it has time to fully set and divert all rain water outflows away from the substrate.
- Provide adequate protection from frost, high winds & precipitation during application and curing.
- Wherever possible fully sheet the elevation during all works to protect from strong sun, wind and water until fully set.
- Apply all materials in accordance with PPG guidelines- refer to the application guide for additional information/

Mixing & Colour Consistency

- Always mix products where specified using only clean water.
- Correctly mix powder product with suitable equipment in full accordance to the product specification. Always discard materials if there is suspicion of damp or contamination.
- Once material has been mixed if not used immediately do not attempt to add additional water at a later stage to improve the consistency of any Johnstone's Stormshield products
- When using coloured renders it is always advisable to check the batch numbers are the same and to mix multiple bags or buckets together prior to application to create high levels of colour accuracy
- Whilst every attempt is taken to ensure colour consistency in highly controlled factory and tinting operations some colour variances may occur.
- Always apply product to a single elevation in one application – wet on wet – to avoid day joints. It may be necessary of large elevations to use a render profile or other suitable detail to create a natural break on the elevation to allow for continuous application.

Project notes

Hot Flue Detail – Where required

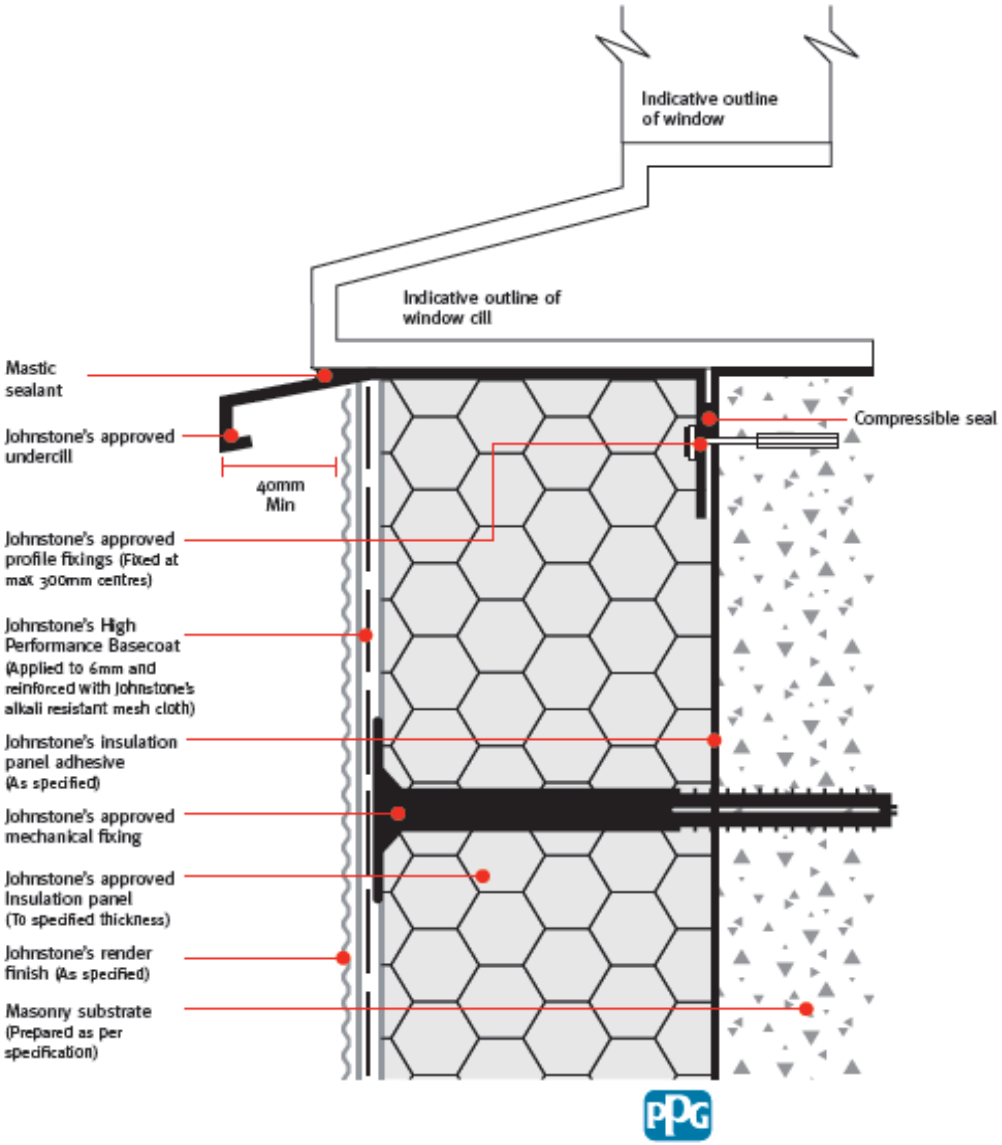


System Example Image

JOHNSTONE'S TRADE STORMSHIELD

External Wall Insulation

Detail Section: Undercill



DRAWING: Standard Detail | DATE: NOV 2013 | REF: JS 6 | NO: 6

PPG Architectural Coatings, Huddersfield Road
Birstall, Batley, West Yorkshire, WF17 9XA
Telephone: 01924 354000 Fax: 01924 354001

Project photo

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E ppgextra@ppg.com
W johnstonestrade.com

Appendix B

EWI ACCREDITED CONTRACTORS

APPROVED CONTRACTORS LIST

Lee Morley
Independent Energy Savers Ltd
(01745) 583488
07825 580065
lee@iesukltd.org

Dave Hartley
North West Facilities Ltd
07919 100166

Mike Reynolds,
NW Rendering
07504 644494.
nwrsltd@gmail.com

Paul Perkins
Perkins Plastering
07969 270392
perko1990@hotmail.com

Appendix C

ROOF SCHEDULE OF WORKS

Bill of Quantities

Item	Description	Qtty	Unit	Rate	Total
	A -Demolitions and Alterations				
A	Carefully remove all debris from roof and gutters etc and dispose of debris; off site.	1	Item		£0.00
B	Carefully remove existing uPVC rainwater gutters and associated fittings and dispose of all debris; off site.	150	m		£0.00
C	Ditto; uPVC downpipes and associated fittings and dispose of all debris; off site.	27	m		£0.00
D	Carefully remove existing Bird deterrent and set aside for re-use.	1	Item		£0.00
E	Carefully remove all existing tiles, battens and memebrane and dispose of debris; off site.	768	m2		£0.00
F	Carefully remove existing ridge tiles and dispose of debris; off site.	52	m		£0.00
H	Carefully remove existing hip tiles and dispose of debris; off site.	11	m		£0.00
I	Carefully remove existing lead soakers and dispose of debris; off site.	61	m		£0.00
J	Carefully remove existing lead/single ply covering to secret gutters and dispose of debris; off site.	38	m		£0.00
K	Allow for turning up all flashings and re-dressing upon completion of the works; re-sealing as necessary with lead mate or similar and approved.	61	m		£0.00

To Collection:- £0.00

Item	Description	Qtty	Unit	Rate	Total
	B- Fascia's; Soffits and Rainwater goods.				
A	Supply and install uPVC fascia; white; cover board; 225 x 18 mm; fixing with 65 mm long white topped polypins.	150	m		£0.00
B	Supply and install uPVC soffit; white; 200 x 10 mm; fixing with 65 mm long white topped polypins.	150	m		£0.00
C	Replacement fascia end caps; white.	13	Nr		£0.00
D	Replacement fascia cover board external corner; white.	1	Nr		£0.00
E	Replacement fascia double end joint connectors; white.	19	Nr		£0.00
F	Soffit jointer trim; white.	20	Nr		£0.00
G	Supply and install, Marley Deepflow, semi-elliptical PVCu gutter; 110 x 75 mm; black; with brackets and fittings in the running length in strict accordance with the manufacturers latest written instructions and recommendations.	150	m		£0.00
H	Unions.	19	Nr		£0.00
I	External stop ends.	18	Nr		£0.00
J	90 degree external angles.	1	Nr		£0.00
K	Running outlets; 68 mm diameter spigot.	11	Nr		£0.00
L	Supply and install, Marley; PVCu downpipe; 68 mm diameter; black; with brackets and fittings in the running length; in strict accordance with the manufacturers latest written instructions and recommendations.	27	m		£0.00
M	Shoe.	11	Nr		£0.00
N	Swan neck; 200 mm projection.	11	Nr		£0.00
O	Allow for testing upon completion in the presence of the clients design team representative.	1	Item		£0.00

To Collection:- £0.00

Item	Description	Qtty	Unit	Rate	Total
	C - Roof Coverings				
A	38 x 125 mm softwood; treated eaves tilting fillets.	150	m		£0.00
B	Ditto; 50 x 25 mm; side abutment of secret gutter.	15	m		£0.00
C	Marine grade plywood; 18 mm thick lay board; 300 mm wide.	40	m		£0.00
D	Replacement flashing kits to rooflights; Contractor to verify size; type and suitability.	12	Nr		£0.00
E	Redland GRP secret gutter to side abutments with existing lead flashings dressed down over; raking.	15	m		£0.00
F	Code 4 lead apron flashings to top edge abutments with existing lead flashings dressed down over; 300 mm wide; horizontal.	3	m		£0.00
G	Ditto; raking.	15	m		£0.00
H	Code 4 lead flashings to patent glazing; 300 mm wide; horizontal.	30	m		£0.00
I	Ditto; raking.	7	m		£0.00
J	Code 4 lead flashings to Extract fan; 300 mm wide; horizontal.	4	m		£0.00
K	Ditto; raking.	4	m		£0.00
L	Code 3 lead soakers; 300 mm wide; horizontal.	15	m		£0.00
M	Ditto; raking.	45	m		£0.00
N	Patination oil.	1	Item		£0.00

To Collection:- £0.00

Item	Description	Qtty	Unit	Rate	Total
	D - Secret Gutter				
A	Line secret gutter with marine grade plywood; 22 mm thick; 500 mm wide.	40	m		£0.00
B	Extra over for each 100 mm width; increase or decrease.	40	m		£0.00
C	Wrought softwood; treated; 50 x 50 mm angled splay at corners.	80	m		£0.00
D	Supply and lay Fatra FF818 polythene VCL loose over substrate and tape all joints with Fatra FA1 butyl sealant tape; minimum 100 mm side and end laps; set out and fix FF852 PVC fixing disks to fixing design to be sought from Fatra Technical Department using specified Fatra fixings at maximum 650 mm centres; Fatra FF810 Single Ply Membrane to gutters; mechanically fixed; minimum overlap of 120 mm with all joint welded with a heat gun to form a homogeneous; watertight seal; extending up slope to a vertical height, minimum 150 mm above deck level; including all trims/drips/ pre-formed corners etc at all perimeters and changes in direction/angle/ outlets etc; n.e. 1200 mm girth; ensuring a 25 year labour and materials insurance backed guarantee.	40	m		£0.00
E	Extra over for each 100 mm width; increase or decrease.	40	m		£0.00
F	Allow for undertaking electronic leak detection in the presence of the clients design team.	1	Item		£0.00
	Roof coverings				
G	uPVC, black, proprietary tilting fillet.	150	m		£0.00
H	Redvent over fascia vents.	150	m		£0.00
I	Proprietary eaves ventilation trays.	150	m		£0.00
J	Supply and lay 25 x 50 mm sawn softwood; treated roofing battens on vapour permeable underlay, Proctor roof shield breather membrane laid to a nominal 10 mm drape with minimum 150 mm horizontal laps and BS 747 type 5U heavy duty felt at eaves with Redland Cambrian Slate; colour Slate Grey 30; twice nailed and clipped with stainless steel ring shank nails for severe exposure and coastal location; laid in broken bond, half lapped pattern; minimum 210 mm, maximum 225 mm going with 75 mm minimum head lap; ensure slates are selected from at least three different pallets and mixed prior to laying to ensure an even spread of colour; all in accordance with the manufacturers latest written instructions and recommendations.	768	m2		£0.00
K	Extra over for additional course at eaves.	150	m		£0.00
L	Extra over for slate and a half or double at verges.	69	m		£0.00
	To Collection:-				£0.00

Item	Description	Qtty	Unit	Rate	Total
	Roof coverings Cont'd				
M	Extra over for slate and a half or double at roof light abutments and Extractor vents etc.	47	m		£0.00
N	Extra over for slate and a half or double at abutments.	47	m		£0.00
O	Extra over for slate and a half or double at hips.	12	m		£0.00
P	Cutting to hips.	25	m		£0.00
Q	Cutting to roof lights.	8	m		£0.00
R	Redland Ambi interlocking Dry verge system including eaves/ridge closures with verge course cut from slate/slate-and-a-halves in alternate courses.	69	m		£0.00
S	S & V Tile	2	Nr		£0.00
T	Redland concrete Uni-Angled ridge tiles with Redland Uni-Vent Rapid ridge system.	55	m		£0.00
U	Extra over for blocked ends.	8	Nr		£0.00
V	Uni-Angled hip tiles with Redland Uni-Vent Rapid hip system; raking cuts formed with slate-and-a-half and double-width slates.	12	m		£0.00
W	Galvanised mild steel scrolled hip irons.	1	Nr		£0.00
X	Take bird deterrent from store and re-fit.	1	Item		£0.00
	To Collection:-				£0.00

Item	Description	Rate	Total
	ROOF Cont'd		
	Collection		
A	From page Nr 1		£0.00
B	From page Nr 2		£0.00
C	From page Nr 3		£0.00
D	From page Nr 4		£0.00
D	From page Nr 5		£0.00
	To Summary:-		£0.00

Appendix D

CAMBRIAN SLATE DATA SHEET

Redland

CAMBRIAN SLATE

TECHNICAL DATA

Size (overall)	300 x 336mm
Minimum Pitch and Headlap	15° at 75mm headlap / 25° at 50mm headlap
(The minimum pitch is based on a maximum rafter length of 10 metres. For rafter lengths greater than this, please contact the Technical Solutions Hotline on 03708 702595)	
Maximum Pitch (subject to fire resistance requirements above 69°)	90°
Minimum Headlap	50mm
Maximum Headlap	90mm
Minimum Gauge/Batten Spacing	210mm
Maximum Gauge/Batten Spacing	below 25° 225mm / 25° and over 250mm
Hanging Length (approx)	294mm
Cover (all figures are net and do not allow for wastage)	
Linear cover of 1 slate	300mm
Covering capacity	14.8 slates/m^2 at 225mm gauge / 13.3 slates/m^2 at 250mm gauge
Weight	18kg/m^2 at 225mm gauge / 17kg/m^2 at 250mm gauge
per pallet, including pallet (approx.)	0.76 tonnes
per 1000	1.24 tonnes
Battens Required (at max. gauge)	4.0m/m^2
Batten Size	
Rafter centres up to 450mm	38 x 25mm
Rafter centres up to 600mm	50 x 25mm
Fixing Clips	Eaves, Verge & Slate Clips
Nail Size for Slates[#]	30 x 2.65mm (S/S)
Pallet Quantities	Slates per pallet 600 / Slates per pack 10 / Packs per pallet 60

[#](S/S) Stainless Steel Annular ring shanked

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Cardiff
CF10 4BZ

wsp.com