

Connell Co-op College - External Materials

Proposal: Erection of single-storey detached building for educational use (Class F.1) comprising of classrooms, WCs, plant room, stores, ancillary staff offices and canopy linkway to the existing building. Additional parking, playground, landscaping, external works and servicing

Location: Connell Co-op College, 301 Alan Turing Way, Manchester M11 3BS

Document History

Rev	Date	Status	Prepared By	Approved



Brickwork

The new build will feature a Staffordshire Blue Engineering brick at the plinth level. The main brickwork will be constructed with Rothesay Blend buff brickwork. All brickwork will be kiln fired natural clay bricks with a light-coloured mortar between bricks in a stretcher bond configuration. Please refer to the end of this document for further product information on these bricks. The Brickwork has been selected to match the existing bricks already on site. Image below indicating the desired facing brickwork finish:



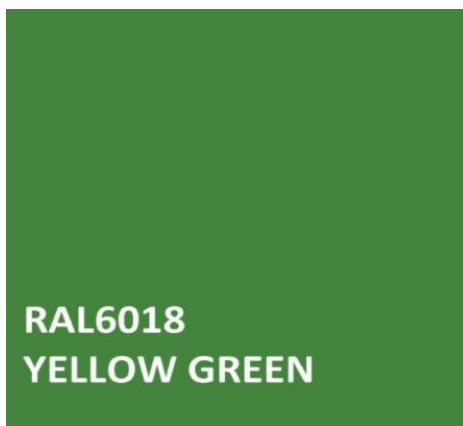
Rothesay Blend Brick



Staffordshire Blue Engineering Brick

Render

The render will be silicone based and have mixed substrate of render carrier boards and blockwork. The green render installed between windows will be coloured in RAL 6018 and the large white render sections will be RAL 9010 as per the images below and in keeping with the colleges current building.



Fenestrations (External Doors and Windows)

External doors will be polyester powder coated aluminium double-glazed doors. The external windows will be polyester powder coated aluminium double glazed with opening lights and trickle vents. – All fenestration to be Anthracite Grey RAL 7016.



Canopy

The external canopy will be powder coated aluminium frame in Anthracite Grey RAL 7016 with a mono pitch roof with polycarbonate infill panels.



Fascia and Rainwater Goods

The rainwater goods (hopper boxes, downpipes, bracketry etc.) are formed from polyester powder coated aluminium in Anthracite Grey RAL 7016. The fascia copings are formed using a durable edge trim finished in Chromite Grey, example images of both below:



Roof

The roof will be coated in a liquid applied roof waterproofing membrane. This will have a fibreglass substrate with a liquid polymer resin. The roof will be finished in chromite grey



Cycle Shelter

The cycle shelter shall be formed from heavy duty steel box sections, galvanised and polyester powder coated to provide a durable coating – these will be finished in anthracite grey RAL 7016. The clear sheets are formed from PETG UV sheets. The cycle shelter will be complete with security doors formed from heavy duty box sections and a steel mesh all with a galvanised finish.



Fencing

The fencing will be formed from a steel wire mesh panel with steel box section posts. All posts and panels will be galvanised and polyester powder coated in Moss Green RAL 6005.



Please refer to the following documents for further information in the appendix of this report for further details of the proposed materials:

1. UK_MKT_DOC_PDS_BRICK_Rothesay Blend
2. Staffordshire Slate Blue Smooth Technical Data Sheet
3. SAS SPW 501 Thermal Door Data Sheet
4. SF52-curtain-wall-datasheet
5. Protec-Specifier-Brochure
6. BXMWWAR_Wardale
7. CLD-Multiplus-Perimeter-Security-Fencing

Should you require any further information to assist with this application, please do not hesitate to contact me.

Kind Regards

Sam Tyler

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Rothsay Blend

Product Technical Information Sheet

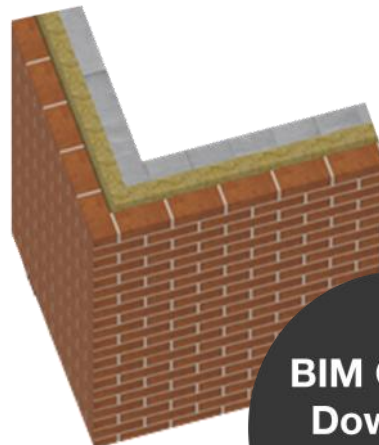
Wienerberger Code	24170700
Production Plant	Denton
Manufacture	Extruded/Wirecut
Configuration	Perforated
Colour	Buff Multi
Appearance	Dragfaced
Work Size (mm)	215 x 102.5 x 65
Pack Quantity	400 No.
Individual Dry Brick Weight (kg)	2.0

Technical Properties to BS EN 771-1

Size Tolerance (Mean/Range)	T2/R1
Gross Dry Density (kg/m ³ /Tolerance)	1460 (D1)
Compressive Strength (N/mm ²)	≥50
Thermal Conductivity (W/(m·K))	P=90% 0.69
λ _{10,dry,unit} value (EN 1745 tabulated: S1)	
Durability Designation	F2
Water Absorption (%)	≤10
Initial Rate of Water Absorption (kg/(m ² ·min))	Min. 0.5 Max. 1.0
Active Soluble Salts	S2
Reaction to Fire	Class A1

Issue Date: 07/09/2020

Technical data correct at time of issue. Individual dry brick weights can vary and are for guidance only. Any questions regarding this data should be referred to the Wienerberger Technical Department. Due to the limitations of screen and print colour representation of product images it is advised that brick samples are viewed prior to ordering.



**BIM Objects
Download**



Staffordshire Slate Blue

Smooth

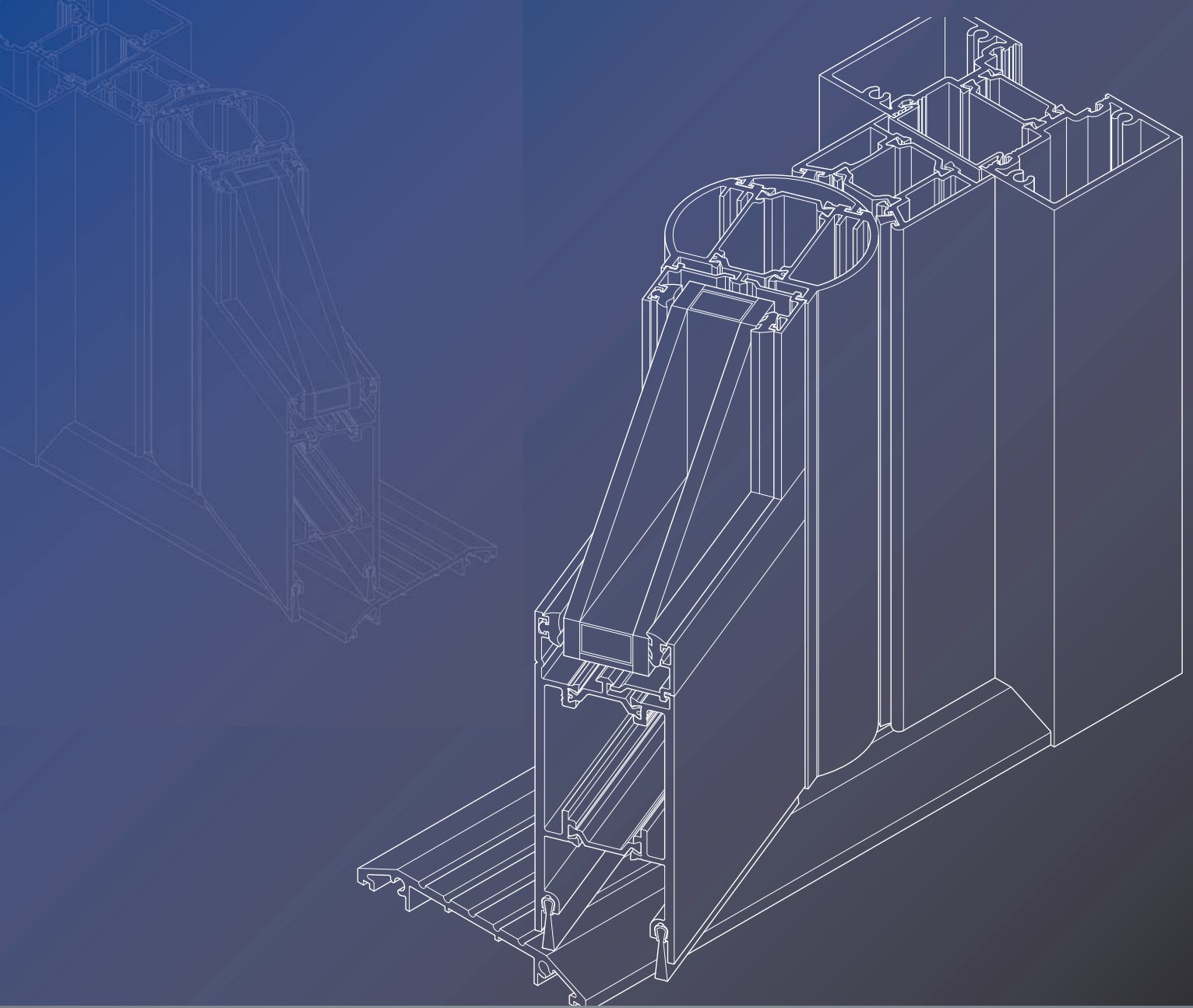


Product Information

Ibstock Code:	2232
Type:	Wirecut
Facing Description:	Smooth
Dry Brick Weight (kg):	2.4kg
Pack Quantity:	380
Packaging (standard):	Banded (plastic)
Factory:	Lodge Lane

Technical Specification (to BS EN 771-1)

Brick Dimensions (L x W x H mm):	215x102x65
Size Tolerances Mean & Range:	T2 R1
Configuration:	Vertically Perforated
Voids (%):	23-28
Compressive Strength (N/mm ²):	75
Active Soluble Salts:	S2
Water Absorption (% weight):	7
Durability:	F2~
Gross Dry Density (Sound Insulation) (Kg/m ³):	1650
Equivalent Thermal Conductivity "K" value 5% Exposed:	Refer to Ibstock
Initial Rate of Absorption (Suction Rate) (Kg/m ² /min):	Refer to Ibstock
EAN:	5036335012932



Technical information

SPW501 thermally broken screening and door system



SENIOR **ALUMINIUM** SYSTEMS™

Scope

The SPW501 system has been designed to provide a high performance commercial door and framing solution capable of being manufactured in single, double, and emergency door types and utilising low thresholds and a variety of options such as radius anti-finger trap stiles. It is a thermally broken polyamide framing system, capable of accepting glazing up to 28mm thick depending on weight.

Materials

- All aluminium sections are extruded using Aluminium Alloy 6060 or 6063 T6 to BS EN 755 part 9 2008.
- Polyamide thermal barriers are manufactured in accordance with PA66 GF25.
- Gaskets are manufactured in accordance with BS3734.

Finishes

SPW501 framing sections are available typically in 3 finishes.

- Polyester Powder Coating to BS EN 12206: 2004 Part 1 - painted in house in single or dual colour and surface finish at 40 microns standard, or enhanced to 60 microns for marine environments, in accordance with ISO9001, ISO14001 and ISO18001.
- Anodised and Anolok finishes are to BS3897: 1991 to a minimum of 25 microns (AA25), supplied in either satin or polished finish in a limited range of colours.
- Mill finish.

Construction

SPW501 is constructed with square cut components, mechanically jointed using self tapping screws into special cleats, and torsion bars are used for compressive strength. A proprietary sealant is used on all metal joints in line with good practice.

Automation solutions are also available.

Weather Rating

Differing door configurations produce different ratings. Please consult our technical department.

Typical* sizes

	Width (mm)		Height (mm)
Single Door	1150	x	2300
Double Door	2300	x	2300

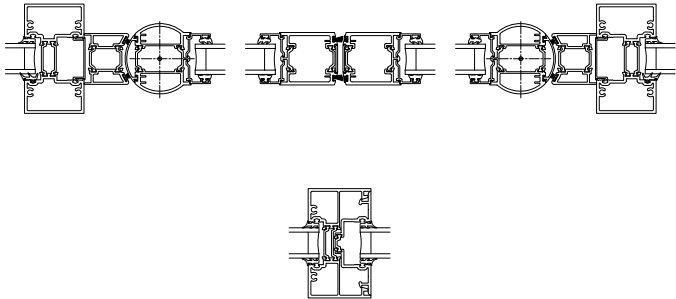
*For guidance only - when exceeded please consult our technical department.

Glazing

Thickness	28mm
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Average U values (door) -

	Single	Double
Fully glazed	2.12W/m²K	2.10W/m²K
With mid rail	2.22W/m²K	2.21W/m²K

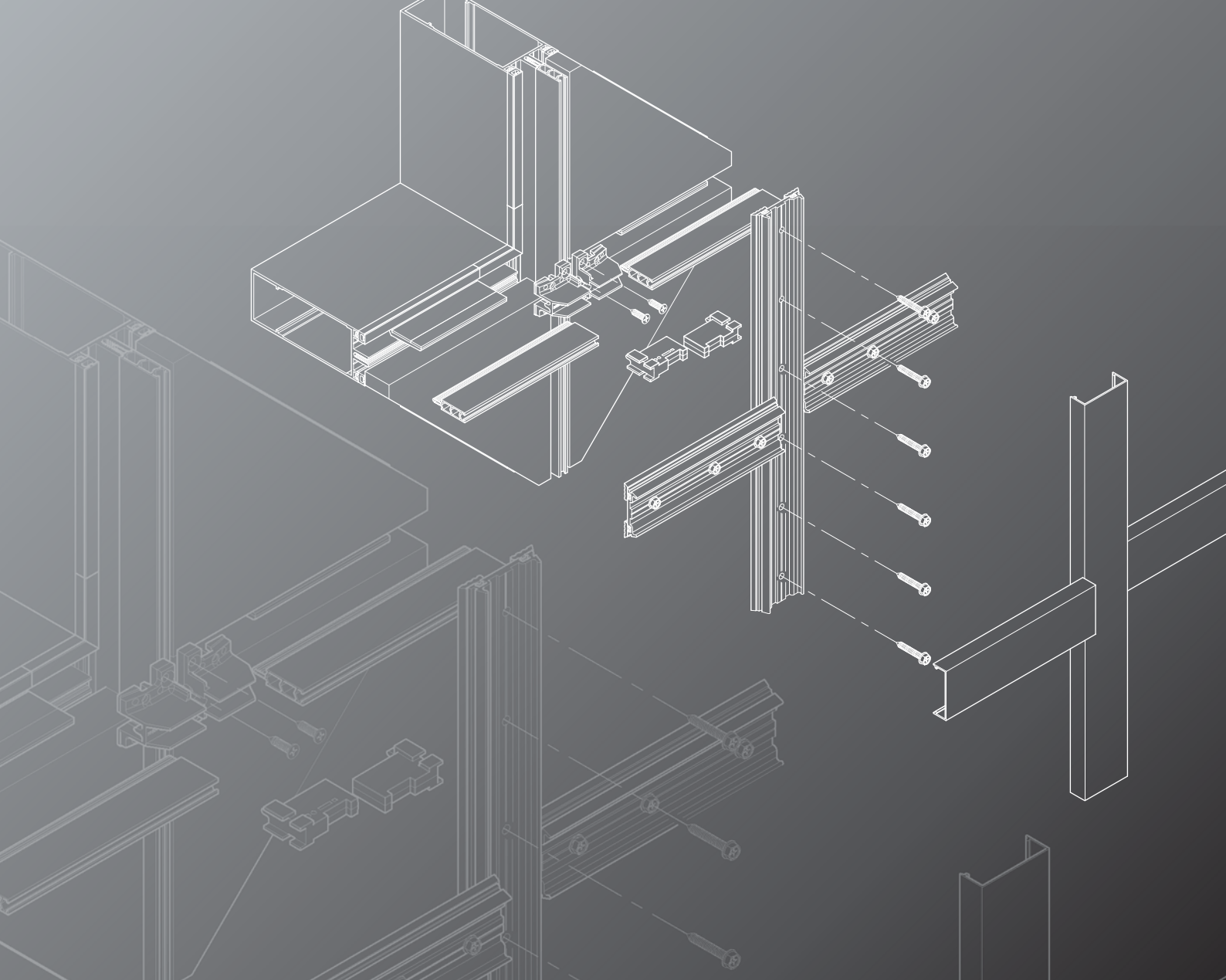


Environmental

Senior Architectural Systems is fully compliant with BS EN ISO 9001, BS EN ISO 14001 and OHSAS 18001 Standards.

SPW501 when used on projects involved in a BREEAM assessment, or within the Code for a Sustainable Built Environment and the Code for Sustainable Homes (which therefore involves the Green Guide to specification) can offer significant benefits. For project specific assistance, please contact our specification team.

Specification. Please contact our national team of architectural advisors for advice on product suitability, calculations and NBS or bespoke specifications.



Technical information

SF52 curtain wall systems

SF52
CURTAIN WALL SYSTEMS

Scope

The SF52 curtain wall system has been designed to enhance thermal performance meaning the system can exceed current building regulations. It is a stick type front loaded system using spring pins and a specially designed cleat which allows square cutting throughout. The system can be either zone drained (via conventional pressure plate drainage or using a specially designed spout system) or it can be mullion drained. The zone drained system can be assembled capped, uncapped (using the SAS toggles) or combination of the two. Glazing ranges from 22mm to 50mm. Section sizes vary from 50mm to 250mm (50, 80, 100, 125, 150, 175, 200, 225, 250). Specific profiles can be incorporated offering design flexibility.

Materials

- All aluminium sections are extruded using Aluminium Alloy 6060, 6063 or 6083 (for improved strength) T6 to BS EN 755 part 9 2008 or BS EN 12020-2.
- Thermal breaks are extruded to BS 7619.
- Gaskets are manufactured in accordance with BS 3734.

Finishes

The SF52 curtain wall system is available typically in three finishes.

- Polyester Powder Coating to BS EN 12206-1: 2004 Part 1 – painted in house. Surface finish at 40 microns standard, or enhanced to 60 microns for marine environments, in accordance with ISO 9001, ISO 14001 and ISO 18001.
- Anodised finishes are to BS3897:1991 to a minimum of 25 microns (AA25), supplied in a limited range of colours.
- Mill finish.

Construction

The SF52 curtain wall system utilises square cuts throughout and is joined using a specially designed cleat and spring pin within the zone drained system. The mullion drained system uses a “lap” joint. A proprietary sealant is used on all metal to metal joints in line with good working practice. All internal gaskets are designed to mate with injection moulded corner pieces and are sealed at joints. Shear blocks and reinforcing sleeves are available.

Average U Values

Due to the variety of profiles, mullion spacings, glass and panel specifications on each project; a specific U-value calculation will be required. Please contact our Technical Department or Architectural Advisors.

Glazing

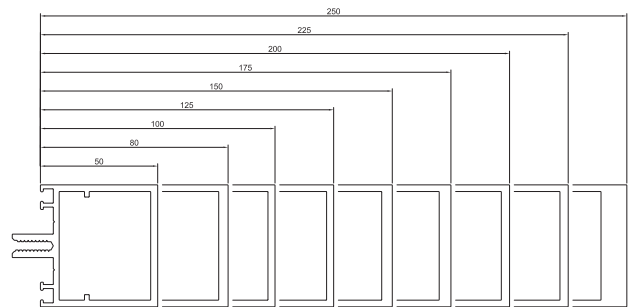
Thickness	22mm to 50mm
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Weather Rating CWCT Sequence B

Air Permeability	600 Pa
Water Tightness	600 Pa
Wind Resistance	2400 Pa

EN13830:2003

Air Permeability	600 Pa
Water Tightness	600 Pa
Wind Resistance	2400 Pa



Environmental

Senior Architectural Systems is fully compliant with BS EN ISO 9001, BS EN ISO 14001 and OHSAS 18001 standards.

SF52 curtain wall system when used on projects involved in a BREEAM assessment, or within the Code for a Sustainable Built Environment and the Code for Sustainable Homes (which therefore involves the Green Guide to specification) can offer significant benefits.

Specification. Please contact our national team of architectural advisors for advice on product suitability, calculations and NBS or bespoke specifications.

PROTEC



ADVANCED LIQUID ROOFING SYSTEMS

PROTEC



PRODUCT INFORMATION & DESIGN GUIDE



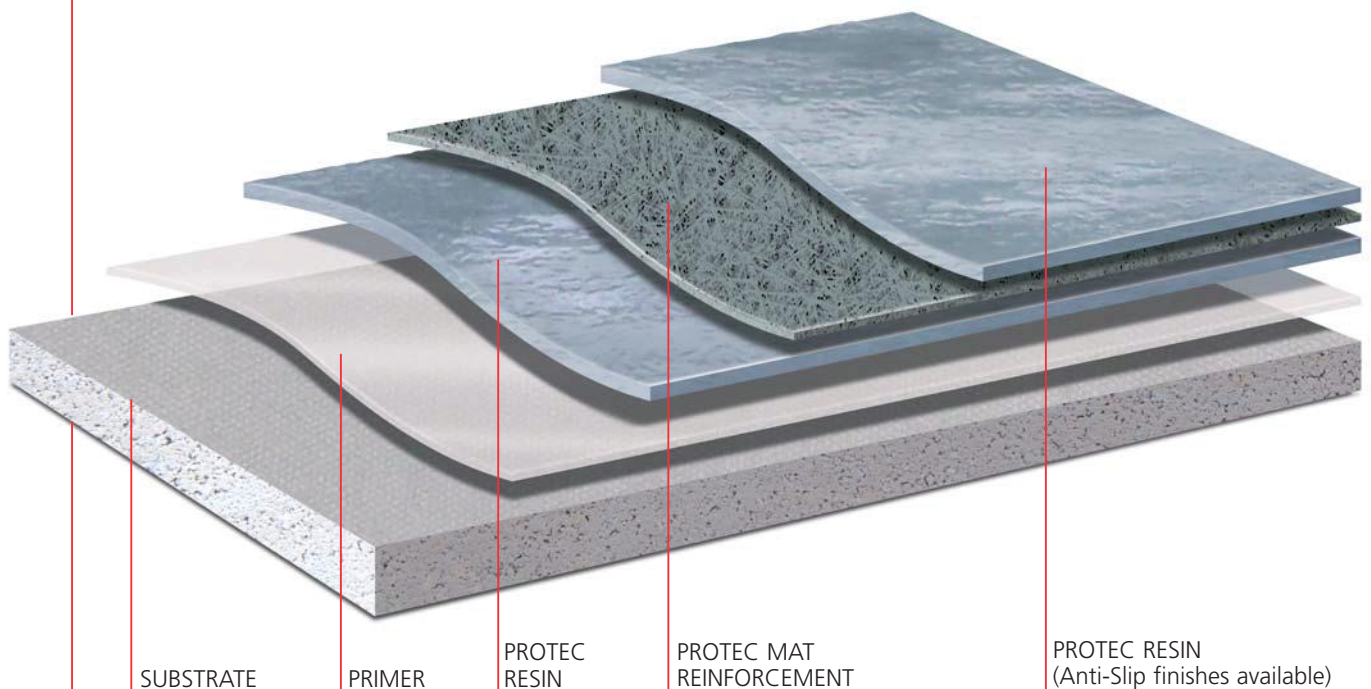
PROTEC - A DURABLE, SEAMLESS, COLD APPLIED LIQUID ROOFING SOLUTION

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- 3 Protec Introduction
- 4 Roof Design
- 6 Colours & Finishes & Foot Traffic
- 7 Simulated Metal Finishes & Green Roofs
- 8 Design Detailing & Trims
- 9 Product Data & Physical Properties
- 10 NBS Typical Spec - Protec Overlay to Asphalt
- 11 NBS Typical Spec - Protec Warm Roof



Polyroof are one of the UK's leading suppliers of BBA approved liquid roofing solutions.



NOT THE SYSTEM YOU'RE LOOKING FOR?
Please ask for our other product brochures.



POLYROOF 185



ELASTEX

polyroof
advanced liquid roofing

PROTEC

■ COLD APPLIED LIQUID

■ UP TO 25 YEAR GUARANTEES

TECHNICALLY ADVANCED ROOFING SYSTEM

Protec is a cost-effective, fast curing polyester roofing system that is ideal for a wide range of refurbishment and new build applications. The system is cold applied and fully reinforced providing a tough yet highly flexible seamless membrane. The system rapidly becomes weather resistant allowing fast access in situations where foot traffic is required. The ease of application of the system enables effective waterproofing over complex or awkward detailing such as protrusions and plant.

Suitable for direct application to a variety of substrates, including built-up felt, concrete, asphalt, plywood and many single-ply membranes, the system is well suited to refurbishment or new build projects of any size. In most cases there is no need for stripping of the old roof, and therefore is ideal for projects that require a fast solution with minimum disruption. Where required, insulation can be provided in conjunction with the system to offer improved thermal performance for projects that demand the highest requirements in energy efficiency. The system is also highly effective for use in inverted or green roof situations, which offer a wide range of environmental benefits.

For balconies and walkway applications the system is finished with PolyFinish MMA, a tough impact resistant yet flexible methyl methacrylate-based finishing coat. Used in conjunction with quartz sand aggregate, it has been specially developed to impart a highly wear resistant, anti-slip finish to the Protec system.



APPLICATIONS

- Overlays
- Warm roofs
- Inverted roofs
- Green roofs
- Balconies

FEATURES & BENEFITS

- BBA and FM approved
- Up to 25 Year Guarantees
- Durable finish
- Choice of colours
- Suited to any size of project
- Quickly weather resistant
- Seamless cold-applied liquid membrane



COLD APPLIED

Like all Polyroof Systems, Protec is cold applied, meaning there is minimum disruption, whilst avoiding

the fire and safety risks associated with conventional systems that rely on boilers and exposed flames.

ECONOMICAL

Protec is a very economical and cost effective system for roofs of any size. Most existing substrates can be over-coated meaning less stripping and disruption. The system is also extremely durable and can be re-coated at the end of the guarantee period. This leads to a low overall life cycle cost for the client.

ENVIRONMENTAL CONSIDERATIONS

Polyroof Products are committed to environmentally responsible manufacturing. A copy of our environmental policy is available on request. Protec Resins are manufactured in accordance with ISO 14001:2015. The system is extremely durable with a long service life and therefore a reduced impact on the environment.

NATIONWIDE NETWORK OF COMPANY TRAINED TECHNICIANS

Protec is only supplied to and installed by contractors fully application trained and licensed by the company, to ensure consistent quality of installation. Contractors' performance is regularly monitored and random inspection of installations carried out. Failure to comply with the company's stringent standards leads to withdrawal of certification.

QUALITY CONTROL

Polyroof Products Ltd operates comprehensive and rigorous quality control procedures in accordance with ISO 9001:2015. The scope of this approval includes the design and installation of roofing systems, the provision of technical support, as well as the appointment and monitoring of installers. Not only is the manufacture of Polyroof liquid applied roofing systems and accessories quality approved, but so too is the procurement, storage and supply of all related materials and consumables.

GUARANTEES

Manufacturer's guarantees are available for up to 25 years, subject to specification and insurance backing is also available. Please call 0800 801 890 for details.

ROOF DESIGN

ROOF CONSTRUCTION

Consideration should be given to the type of roof construction to which the system is to be applied. These can be broadly categorised as:

- Direct overlays
- Warm roofs
- Inverted roofs

GENERAL

Protec is suitable for both refurbishment and new build applications. The design of the roof to which the Protec System is to be applied should be in accordance with the relevant regulations, codes and good practice. Insulation may be incorporated as necessary.

SUBSTRATES

The system can be applied to a range of substrate types including built up felt, concrete, asphalt, plywood*, OSB3, GRP, Polyroof 'RES' insulation board** and many types of single ply. The level of preparation and priming requirements will vary depending on the substrate type. Adhesion tests are recommended for single ply, solar reflective paint and other unidentified coatings or surfaces.

*New plywood decks should be a timber panel to structural grade BS 5268-2:2002 (EN13986 Structural 2+). **Direct application to insulation must be to Polyroof approved 'RES' insulation.

Standard preparation paragraphs can be downloaded at www.polyroof.co.uk or obtained by contacting Technical Services on 0800 801890.

FALLS

Minimum falls recommended by the relevant British Standard Code of Practice for flat roofs is 1:80. However, a design fall of 1:40 is often adopted to provide a construction tolerance. Standing water is not detrimental to the waterproof integrity of the system but if required existing falls may be increased by the using either timber firrings or cut-to-fall insulation. Protec also has BBA compliance for completely flat (zero fall) designs.

WALKWAYS/TRAFFIC

Protec is available with anti-slip options for occasional or regular traffic (*Please refer to Page 6*). The surface finish is anti-slip but cannot possibly eliminate all risk of slipping, this is particularly relevant in the event of ice forming on the roof surface.

DRAINAGE

Advice on roof drainage is given in Code of Practice BS.6367. The majority of standard rainwater outlets can be incorporated into Protec installations.

PENETRATIONS

The system can be moulded to suit penetrations such as soil pipes, stanchions or machinery fixing positions.

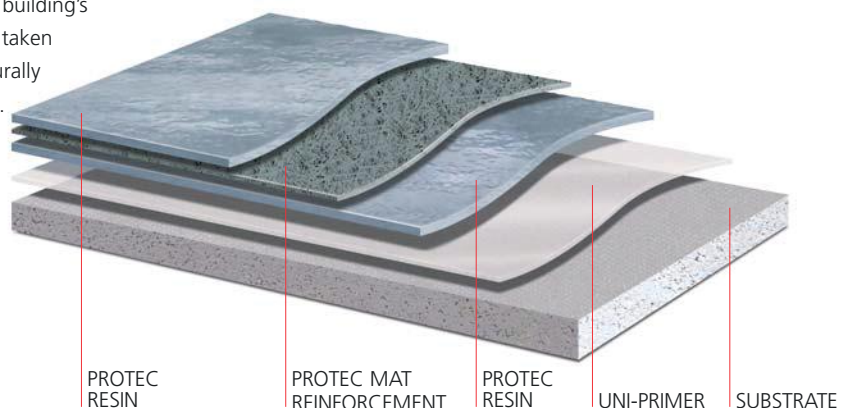
DIRECT OVERLAYS

Suitable for refurbishment or new build projects where insulation is not required. Existing roofs must be structurally sound and should comply with current building regulations.

In many cases overlay systems prove to be the best method of providing fast long term cost effective waterproofing to new or existing roofs with minimal disruption for the building's occupants. On refurbishment projects care should be taken to ensure that the existing roof construction is structurally sound and complies with current building regulations. If this is not the case then a complete strip or thermal upgrade may be necessary.

KEY FEATURES

- Refurbishment or new constructions
- No stripping
- Minimal disruption
- Extends service life of existing roofs
- Fast application
- Suitable for roofs, gutters, balconies & walkways



polyroof
advanced liquid roofing

PROTEC

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■ UP TO 25 YEAR GUARANTEES

ROOF DESIGN

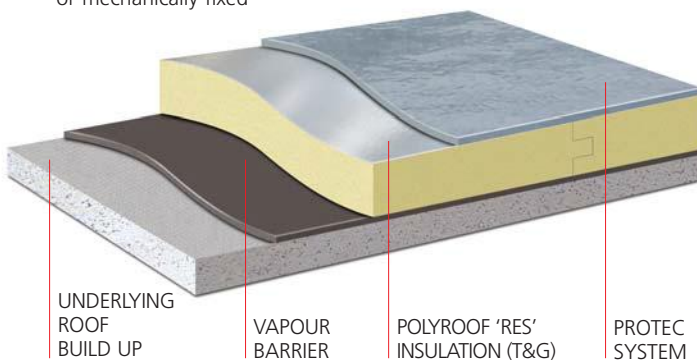
WARM ROOFS

Suitable for new constructions or upgrade of existing roofs to meet current building regulation standards.

Protec is the ideal system for warm roof applications and is equally suited for both new build and refurbishments. A vapour control layer must always be provided prior to installation of rigid insulation boards and care should be taken to ensure the roof achieves the required U-value in accordance with current building regulations standards. The Protec Warm Roof System allows direct application to an approved Polyroof 'RES' Insulation board and, combined with a fast curing adhesive for the insulation panels, provides a much quicker installation than traditional methods.

KEY FEATURES

- Vapour control layer
- Excellent thermal performance
- Reduced energy bills
- Adhesively bonded or mechanically fixed
- Direct application to approved Polyroof 'RES' Insulation
- Cut-to-falls insulation available



Please contact Polyroof Technical Services for details of FM Approved specifications.



New insulation provided. Adhesive or mechanical fix.



Application of waterproofing direct to primed insulation.



Completed warm roof suitable for occasional foot traffic.

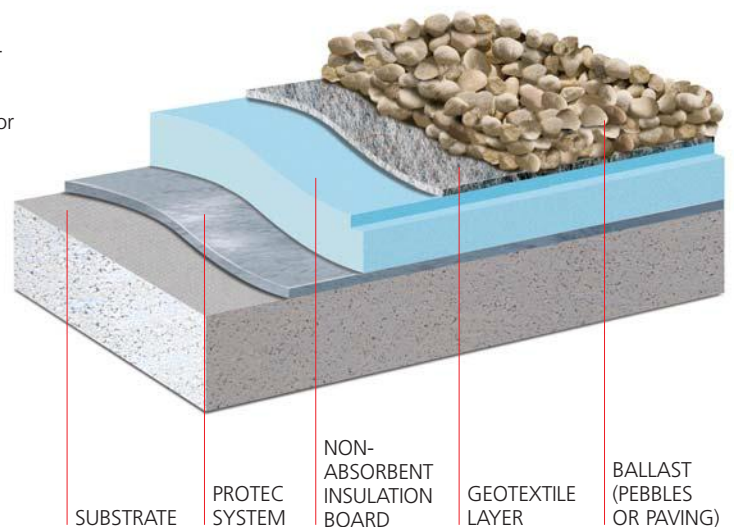
INVERTED ROOFS

Suitable for new build or refurbishment projects to meet current building regulation standards.

Inverted roof applications (also known as upside down or protected membrane roofs) are where the waterproofing layer is applied directly to the structural deck. The Protec System is ideal for inverted roofs and can be applied rapidly to existing or new decks. Decks should be capable of accepting the loading of ballast. Inverted roofs have the advantage of keeping the waterproofing membrane protected at all times and also and eliminate the need for mechanical fixings.

KEY FEATURES

- Protected membrane for increased service life
- Eliminates mechanical fixing / adhesives
- Ballast (Pebbles or Paving)
- Low absorbent insulation board
- Geotextile layer (if required)



■ MINIMAL DISRUPTION ■ COST EFFECTIVE ■ SEAMLESS

FOR SPECIFICATION ADVICE CALL THE TECHNICAL HELPLINE ON 0800 801 890

COLOURS AND FINISHES

Protec is available in two standard colours, plus a variety of anti-slip finishes.
Non-standard colours are available on request.



Chromite Grey



Light Grey

Standard Anti Slip Finishes



Quartz Sand & Polyfinish Light Grey



Quartz Sand & Polyfinish Dark Grey



Green Mineral Slate Chip



Blue Mineral Slate Chip



Quartz Sand

Decorative Anti Slip Finishes



Barn Owl Blend



Bayside Blend



Harvest Blend



Vineyard Blend



Mist Blend



Hillside Blend

FOOT TRAFFIC

Protec is designed to accept either maintenance or regular foot traffic depending on the specification required. The Protec System is available in a number of variants depending on the level of foot traffic anticipated.

PROTEC MINERAL FINISH (ANTI-SLIP)



This is specified for areas where the roof may have some occasional foot traffic and where an anti-slip finish is desired. Typical examples include maintenance walkways to plant rooms and fire escapes.

PROTEC WITH QUARTZ SAND & POLYFINISH (ANTI-SLIP)

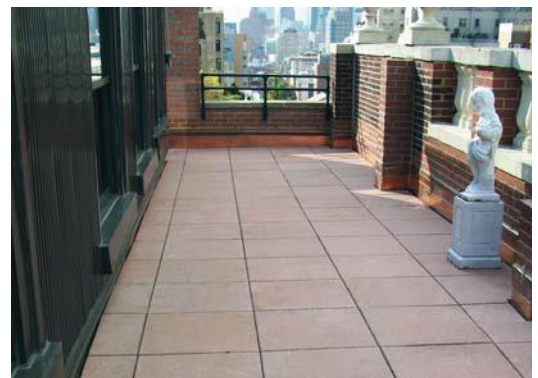


This is specified for balconies, walkways or other areas demanding a high level of wear. Protec with Quartz Sand & Polyfinish has a super tough, impact resistant finish and is suitable for regular foot traffic.

OTHER FINISHES

If required the Protec System may be overlaid with various alternative finishes. Popular methods include timber decking or paving slabs. Our recommendation is to use a loose laid system on proprietary supports (Caro systems or similar).

Should directly bonded coverings be required, consult Technical Services for advice.



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■ COLD APPLIED LIQUID

■ UP TO 25 YEAR GUARANTEES

LEAD & COPPER REPRODUCTION & GREEN ROOFS

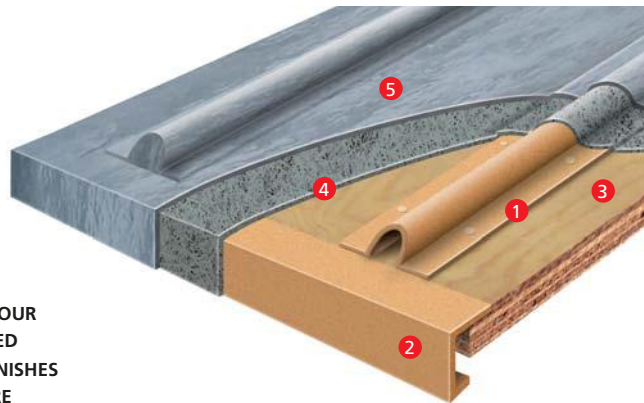
SIMULATED LEAD, ZINC AND COPPER FINISHES

Protec lead roll finish is used on new build or refurbishment projects to reproduce the look of metal at lower cost whilst also removing the risk of theft.

The roll is formed using a pre-formed fibreglass trim. Various levels of reproduction colours and finishes are available to reproduce the look of lead, zinc or oxidised copper.



**ASK FOR OUR
SIMULATED
METAL FINISHES
BROCHURE**



Showing a typical build up of the Protec lead roll system.

1. Pre-formed lead roll detail
2. Pre-formed drip detail
3. Plywood deck
4. Protec Mat Reinforcement
5. Protec

GREEN ROOF SYSTEMS

The Protec Membrane provides an ideal waterproofing solution for use in green roof systems as it is flexible enough to easily accommodate structural movements as well as being lightweight and extremely durable.



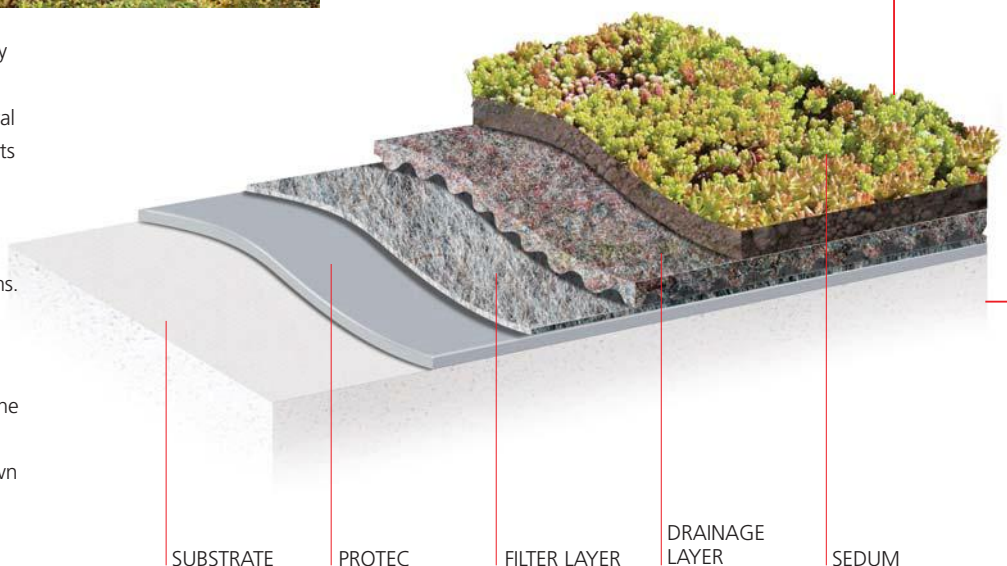
**ASK FOR OUR GREEN
ROOF BROCHURE**

Polyroof is a member of the Green Roof Organisation.

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Green roofs are becoming increasingly popular, and for good reason. They reduce energy costs by creating natural insulation, they create peaceful retreats and recreational areas, they provide natural habitats for wildlife, and they absorb storm water thereby reducing run-off into overworked sewer systems.

In city environments, green roofs improve air quality by absorbing pollutants and by helping to reduce the urban heat island effect. Evaporation from a green roof has also been shown to cool surrounding air temperatures.

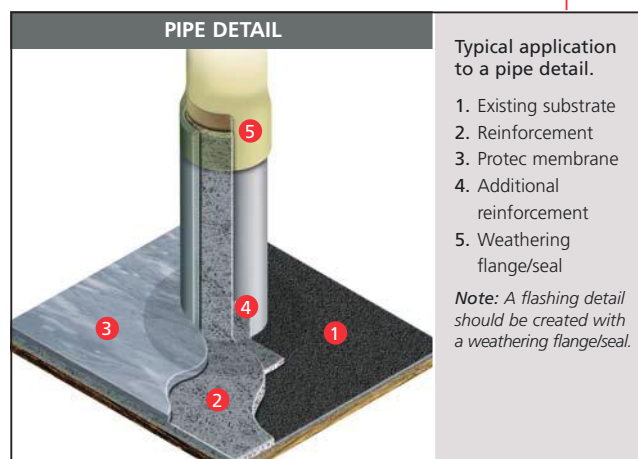
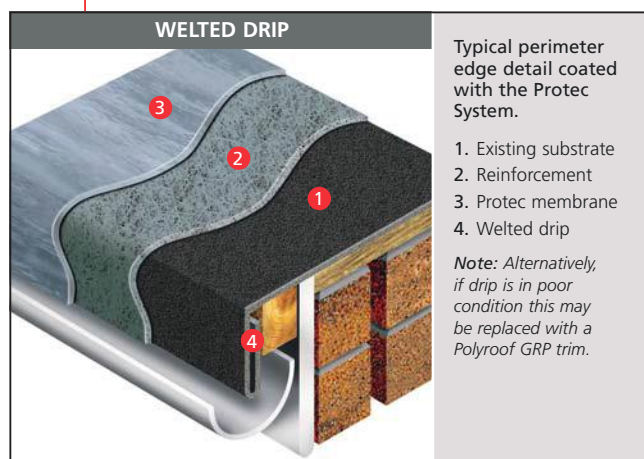
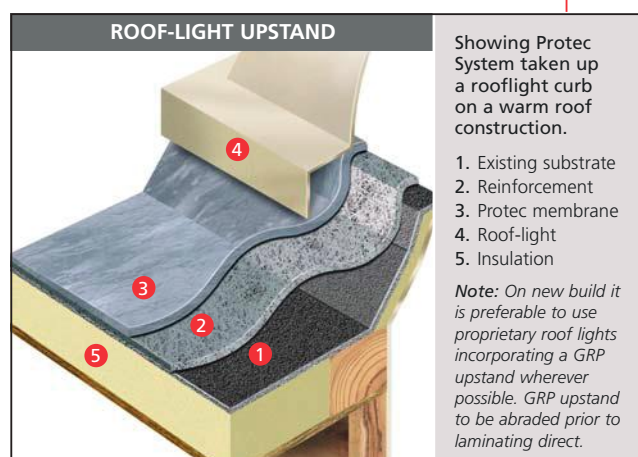
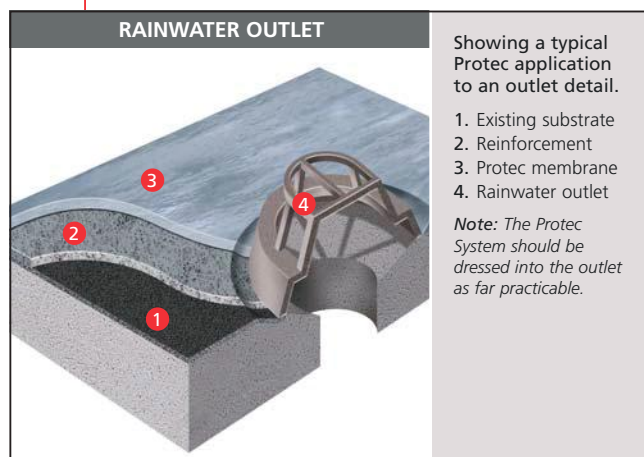


■ MINIMAL DISRUPTION ■ COST EFFECTIVE ■ SEAMLESS

FOR SPECIFICATION ADVICE CALL THE TECHNICAL HELPLINE ON 0800 801 890

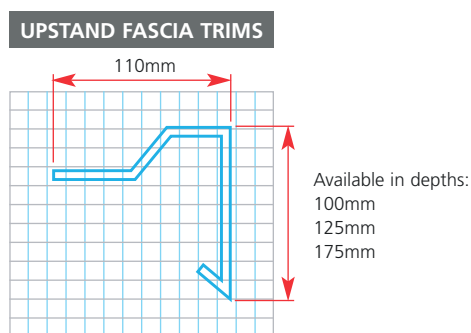
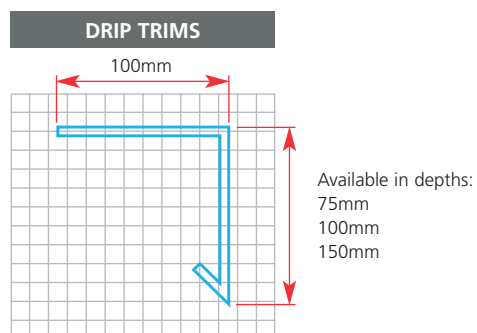
DESIGN DETAILING

Details below show the advantages of seamless liquid waterproofing used in a variety of warm and cold roof applications. For comprehensive downloadable CAD details visit www.polyroof.co.uk or contact Technical Services.



OPTIONAL PREFORMED TRIMS

The Polyroof range of rigid GRP trims offer a fast, reliable way of installing finishing trims and ensuring perfect detailing. These trims are optional as, in many cases, the existing detailing can be retained. A wide range of non-standard profiles exist. Consult Polyroof with your specific requirements.



Building Regulations

Details are for illustrative purposes only. Care should be taken to ensure that any proposed details are in accordance with current building regulations.



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■ COLD APPLIED LIQUID

■ UP TO 25 YEAR GUARANTEES

PRODUCT DATA AND INFORMATION

ACCREDITATIONS

Protec has been independently tested to the very highest standards and has British Board of Agrément, Factory Mutual approval and ETA Certification.

BBA Approval: 09/4676

FM Approval: 3025793

ETA No: 15/0142



QUALITY ASSURANCE

Polyroof Products carry out rigorous quality control testing and for peace of mind all manufacturing is carried out strictly in accordance with the quality standard ISO 9001:2015.

GUARANTEES

Protec is available with a manufacturer's guarantee of up to 25 years (subject to specification) that covers labour & materials and is supported by an independent insurance backing scheme. All work is carried out by a network of fully accredited Polyroof contractors.

DURABILITY

The Protec System will provide a durable waterproof covering with a service life of at least 25 years when exposed.

PROPERTIES IN RELATION TO FIRE

Classified as BROOF(t4), the top rating achievable for a flat roof system and designating Protec as unrestricted under the national Requirements (see Section 7 of BBA Certificate 09/4676).

WEATHERTIGHTNESS

Test data confirms that the system will adequately resist the passage of moisture to the inside of the building and so meet the requirements of the National Building Regulations.

RESISTANCE TO WIND UPLIFT

Protec is a fully bonded system. The adhesion of the system is sufficient to resist the effects of any likely wind suction and the effects of thermal or other minor movement likely to occur in practice. Please note wind uplift calculations are available on request from Polyroof Technical Services.

PROTEC TEST DATA

TEST	METHOD	RESULT	TEST	METHOD	RESULT
Fire Tests	BS EN 13501-5:2005	B _{ROOF} (t4)	Water vapour transmission (gm⁻²day⁻¹)	BS 3177 (25°C/75% RH)	0.72
	ANSI/UL 790 PU Foam DensDeck Prime	Class A Class A	Water vapour resistance (MNsg⁻¹)	BS 3177 (25°C/75% RH)	285
	ASTM E108-06 PU Foam DensDeck Prime <i>Other substrate data available</i>	Class A Class A	Delamination strength (kPa) unaged heat aged ⁽²⁾ water exposure ⁽⁵⁾	EOTA TR 004	1260 ⁽⁴⁾ 1288 ⁽⁴⁾ 1178 ⁽⁴⁾
	FM Calorimeter Test	Class 1	Dynamic indentation concrete unaged UV aged ⁽³⁾ insulation unaged	EOTA TR 006	I ₄ I ₄ I ₂
Wind Uplift	FM Test	Up to Class 1-990	Static indentation concrete unaged water exposure ⁽⁵⁾ insulation unaged	EOTA TR 007	L ₄ L ₄ L ₄
Foot Traffic	FM Test PU Foam (91kg)	Pass	Fatigue cycling unaged Protec Protec MMA heat aged ⁽²⁾ Protec Protec MMA	EOTA TR 008	pass pass pass pass
Hail Damage	FM Test PU Foam (0.4kg from 5.4m) Concrete (0.4kg from 5.4m)	Pass Pass			
Water Leakage	FM Test 150mm head of water 7 days (After 1000 hrs accelerated weathering)	Pass			
Tensile strength (N per 50 mm) unaged heat aged ⁽²⁾ UV aged ⁽³⁾	BS EN ISO 527-3	3307 4851 4911			
Elongation at maximum load (%) unaged heat aged ⁽²⁾ UV aged ⁽³⁾	BS EN ISO 527-3	3.7 2.8 3.1			

(1) The test documents are detailed in the Bibliography. Numbers in the table refer to the sections/parts of the various documents.

(2) Heat aged 200 days at 70°C to EOTA TR 011.

(3) UV aged using UVA lamps at an exposure of 800 MJm⁻² at 50°C.

(4) Failure 100% within the concrete.

(5) Water exposure 180 days at 60° to EOTA TR 012.

NBS - TYPICAL SPECIFICATIONS

Spec 1 - Protec overlay to asphalt (with optional balcony finish)

This is a guideline specification based on the application of the Polyroof Protec System to an existing balcony or walkway to accept regular foot traffic.

J31 Liquid Applied Waterproof Roof Coatings

To be read in conjunction with Preliminaries / General Conditions.

Surface Preparation

The following is indicative based on an existing asphalt balcony with metal handrails and stanchions. The Protec System can also be laid to a wide range of new and existing substrate types. All substrates should be prepared in accordance with Polyroof Products Ltd recommendations.

Any blow holes in asphalt are to be smoothed out or removed and levelled off using a suitable repair compound. Allow repairs to cure before priming.

All large cracks and voids should be cleaned and made good using a suitable quick-drying repair compound. Repairs should be allowed to cure before priming.

Mechanically abrade metal stanchions to remove loose paint and rust. Rub down all sound residual coating surfaces to provide a mechanical key for repainting and remove debris. Thoroughly wipe metal stanchions with acetone prior to priming.

NB: Please consult Polyroof Products for preparation and priming of any other surfaces.

Waterproofing System

To be applied by an approved contractor.

Manufacturer

Company: Polyroof Products Ltd

Web: www.polyroof.co.uk

Tel: +44 (0)1352 735 135

Product Ref: Polyroof Protec System

Primer Coat

Polyroof Uni-Primer to be applied to asphalt at an approximate coverage rate of 4-5m²/litre.

Polyroof Metallic Primer to be applied to metal handrails at an approximate coverage rate of 4-5m²/litre.

Coating Application (Part A: Waterproofing)

To be laid by Polyroof Approved Contractor strictly in accordance with Polyroof Products Recommendations and BBA certificate.

First coat of Protec applied to primed surfaces at a minimum coverage rate of 1.3litres/m² with Protec Mat reinforcement.

Second coat of Protec applied at an approximate coverage rate of 0.5litres/m² to achieve final surface finish.

Coating Application (Part B: Anti-Slip to Balcony / Walkway Only)

A third coat of Protec is applied at an approximate coverage rate of 0.5litres/m² and blind with Quartz Sand (0.7mm-1.2mm) at an approximate coverage rate of 4kg/m². Once cured remove excess sand.

Apply PolyFinish resin at an approximate coverage rate of 0.6litres/m² to provide a final surface finish.

To un-gritted upstands thoroughly wipe Protec with Acetone prior to application of Polyfinish. Apply Polyfinish Resin at a minimum coverage rate of 0.25litres/m² to the upstands to provide a final surface finish. Allow to cure.

Please note that the above finish is anti-slip but cannot entirely eliminate all risk of slipping. Please consult Polyroof Products Ltd for further advice.

Minimum Dry Film Thickness

1.85mm (waterproofing layer).

Accessories

Polyroof pre-formed GRP trims (optional).

Approvals

BBA Approval: 09/4676

FM Approval: 3025793

ETA No: 15/0142

Further Information

This specification is only a guideline.

NBS specifications can be accessed from www.polyroof.co.uk

NBS Plus

PROTEC

■ COLD APPLIED LIQUID

■ UP TO 25 YEAR GUARANTEES

NBS - TYPICAL SPECIFICATIONS

Spec 1 - Protec warm roof (occasional foot traffic)

This is a guideline specification based on the application of the Polyroof Protec System to Polyroof 'RES' insulation boards in order to form a warm roof design suitable for occasional foot traffic.

J31 Liquid Applied Waterproof Roof Coatings

To be read in conjunction with Preliminaries / General Conditions.

Substrate Preparation

The following is based on a newly laid clean, dry concrete. The Protec System can also be laid to a wide range of new and existing substrate types. All substrates should be prepared in accordance with manufacturer's recommendations.

Wet or saturated substrates should be allowed to thoroughly dry out before any products are applied. For newly laid concrete/screed, follow general guidelines allowing a cure time of at least 28 days or one week per 25mm, or preferably follow manufacturer's instructions. In the case of polymer modified material, refer to manufacturer's instructions.

Warm Roof: Vapour Control Layer

A felt vapour control layer is to be applied to the roof deck and must be fitted strictly in accordance with manufacturer's recommendations.

Note - for options on cold applied felt vapour control layers contact technical services.

Warm Roof: Insulation

Polyroof RES insulation boards (1.2 x 1.0m) are to be bonded using Polyroof Approved Fastec Fastflow Poly 2 Adhesive or Polyroof approved mechanical fixings, installed strictly in accordance with manufacturer's recommendations. All Polyroof RES Insulation board joints are to be taped using 75mm Protec Taping Mat and Polyroof Protec Resin.

Waterproofing System

To be applied by an approved contractor.

Manufacturer

Company: Polyroof Products Ltd

Web: www.polyroof.co.uk

Tel: +44 (0)1352 735 135

Product Ref: Polyroof Protec System

Primer Coat

Consult Polyroof Technical Services regarding priming requirements.

Coating Application

To be laid by Polyroof Approved Contractor strictly in accordance with Polyroof Products Recommendations and BBA certificate.

First coat of Protec applied to primed surfaces at a minimum coverage rate of 1.3litres/m² with Protec Mat reinforcement.

Second coat of Protec applied at an approximate coverage rate of 0.5litres/m² to achieve final surface finish.

Minimum Dry Film Thickness

1.85mm

Surface Protection

Anti-slip available for occasional foot traffic. For regular foot traffic consult Polyroof Technical Services for an alternative system.

Accessories

Polyroof pre-formed GRP trims (optional).

Approvals

BBA Approval: 09/4676

FM Approval: 3025793

ETA No: 15/0142

Further Information

This specification is only a guideline.

NBS specifications can be accessed from www.polyroof.co.uk

The logo for NBS Plus, with 'NBS' in a bold, dark blue font and 'Plus' in a lighter blue, sans-serif font.

TECHNICAL ASSISTANCE

Polyroof Products offer comprehensive technical support for specifiers, contractors and clients. Our technical services department are on hand to offer product advice and answer any questions throughout all stages of your project from inception to completion.

We will review any drawings and offer detailed guidance regarding specifications including recommendations to ensure compliance with all current regulations. We offer a free bespoke specification service and can carry out site surveys to ensure that the most appropriate specification is put forward for your project.

Telephone: 0800 801890
Fax: 01352 736363
Email: technical@polyroof.co.uk

LITERATURE AND SAMPLES

Polyroof Products produce a comprehensive range of literature and product samples for specifiers, contractors and clients. Individual brochures and product samples are available on request for all of our products and are available either in paper copy or electronic format.

A complete specifiers manual is also available which contains a complete set of literature along with product samples. Contact us today for a copy or visit our website www.polyroof.co.uk where you can download individual brochures and NBS specifications.

Telephone: 0800 801890
Fax: 01352 736363
Email: marketing@polyroof.co.uk

Disclaimer

Polyroof Products reserve the right to amend product specifications without prior notice. The information provided in this literature is given in good faith. Recommendations for use should be verified to ensure compliance with all current building regulations and standards. Please check that your current copy of literature is the latest version by contacting the marketing department or visiting www.polyroof.co.uk/downloads.

Nothing in this literature or any other marketing literature produced by or on behalf of Polyroof Products Limited is to be regarded as constituting a contract binding in law between Polyroof Products Limited and any Customer. The only contract which Polyroof will enter into with the customer is contained in the guarantees, the details of which are available on request. The guarantee is in the form of a written guarantee which takes effect only when issued in writing by Polyroof to the customer at the request of the contractor.

CUSTOMER SERVICES



On completion of your project customer services are on hand should you need aftercare advice or should you have any queries relating to your installation, guarantees or warranties.

Telephone: 01352 735135
Fax: 01352 735182
Email: service@polyroof.co.uk

GENERAL ENQUIRES

For all other enquiries contact Polyroof Products on the number below.

Telephone: 01352 735135
Fax: 01352 735182
Email: info@polyroof.co.uk



POLYROOF PRODUCTS LTD, FURNESS HOUSE,
CASTLE PARK INDUSTRIAL ESTATE, FLINT, FLINTSHIRE CH6 5XA
Tel: 01352 735 135 Fax: 01352 735 182 Email: technical@polyroof.co.uk

www.polyroof.co.uk

FREEPHONE HELPLINE: 0800 801 890



nssPlus



Specification Sheet



Wardale® Cycle Shelter BXMW/WAR



Standard Unit Dimensions

Width: 2140mm

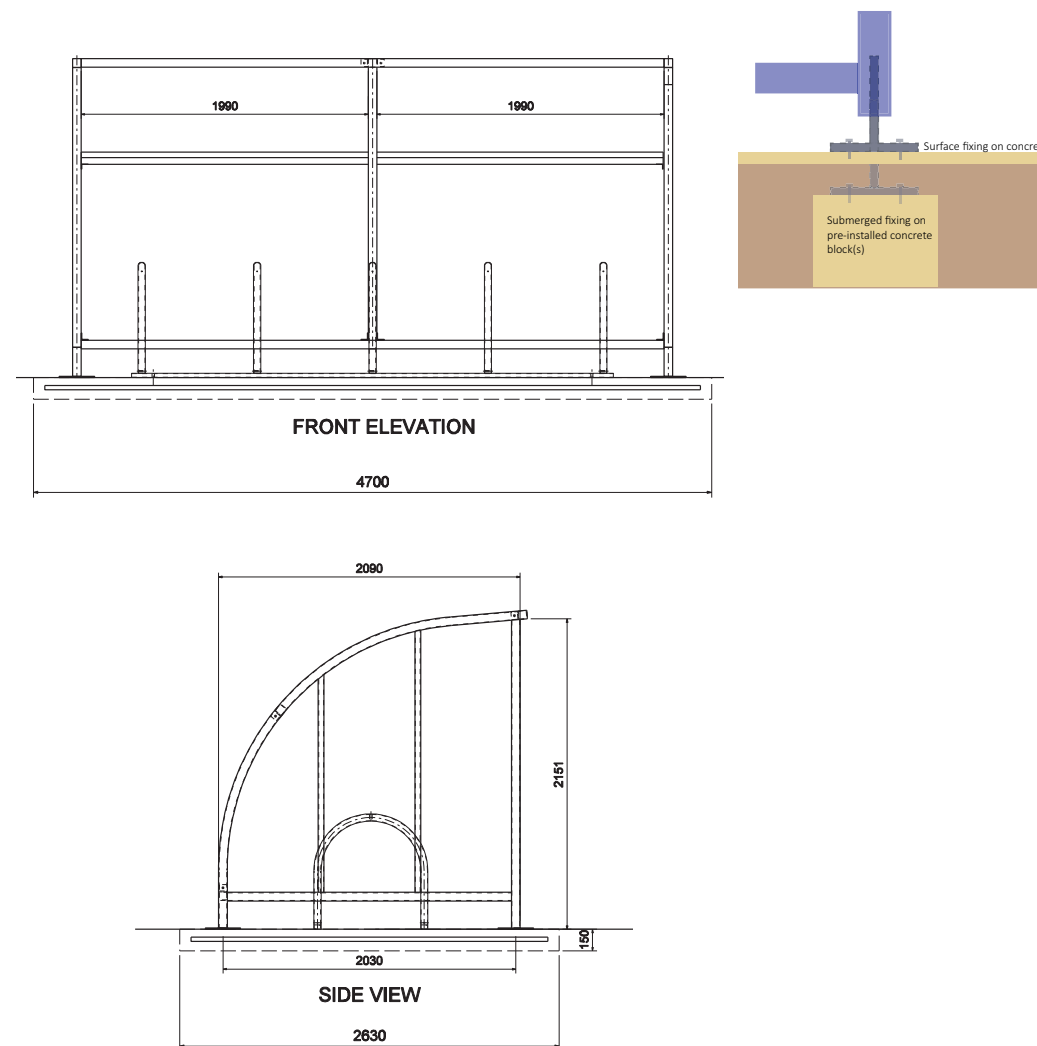
Height: 2150mm

Length with Capacities

2000mm	4 cycles
3600mm	8 cycles
4100mm	10 cycles
5000mm	12 cycles
6000mm	14 cycles

Features

- Robust modular construction
- Load bearing purlins
- Welded end frames
- Made from heavy-duty mild steel box section
- Assembled with anti-tamper high strength bolts
- Anti-climb end frames
- Adjustable baseplates
- Hot dip galvanized to BS EN ISO 1461:2009
- Weather resistant cladding



Wardale® Cycle Shelter BXMW/WAR

Materials Used

Framework - Mild Steel
Cladding - 4 mm PETG uv
Fasteners - Zinc Plated
Cover Strips - Pre-galvanized steel flat

Finish Options (Framework)

Hot-Dip Galvanized to BS EN ISO 1461:2009
Hot-Dip Galvanized & Polyester Powder Coated 60mm-120mm dft
Hot-Dip Galvanized with Duplex (Zinc Coated) Powder Coating (coastal) 180-240 overall dft

Weather Resistance

Cladding is UV Stabilised
Wind resistant to 23m/s

Fire Resistance

Cladding is fire tested to '1Y' for BS 476

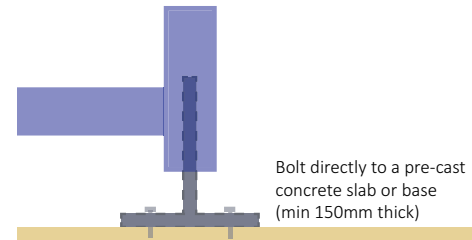
Design-Life, Guarantees & Warranties (terms apply)

25 year structural guarantee
34 year (min) life expectancy for Hot Dip Galvanizing
8-10 year life expectancy on standard powder coatings
10-15 year life expectancy on Duplex (Zinc Coated) powder coatings
10 years manufacturers guarantee on cladding material
10 year warranty on product materials
12 year warranty on parts & labour

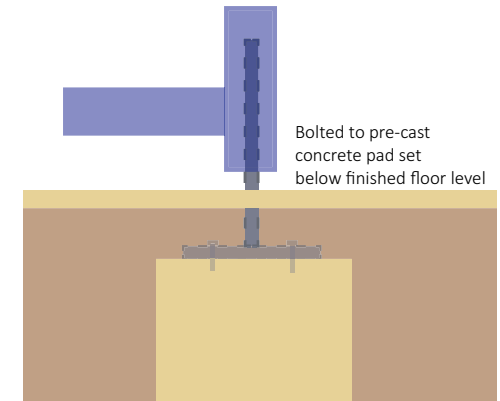
Please Note: All information on this data sheet is subject to orientation (N,S,E,W) altitude and proximity to buildings, but is sufficient for use as general/preliminary information)

Installation

Surface fixing on concrete



Submerged Fixing



Options

Steel Profile, Trapezoidal roof/rear cladding
Opal Cladding to Roof and Sides
Extended adjustable baseplates for submerged fixing
Swinging Security Gates
Sliding Security Gates
Digital Mechanical or Keyed Locks
Further anti crawl bars can be fitted dependent on surface level
Helmet Lockers
Powder Coating to a wide range of colours
LED or solar lighting
Full Installation Service
Varied Range of Cycle Racks
Varied Range of Cycle Stands

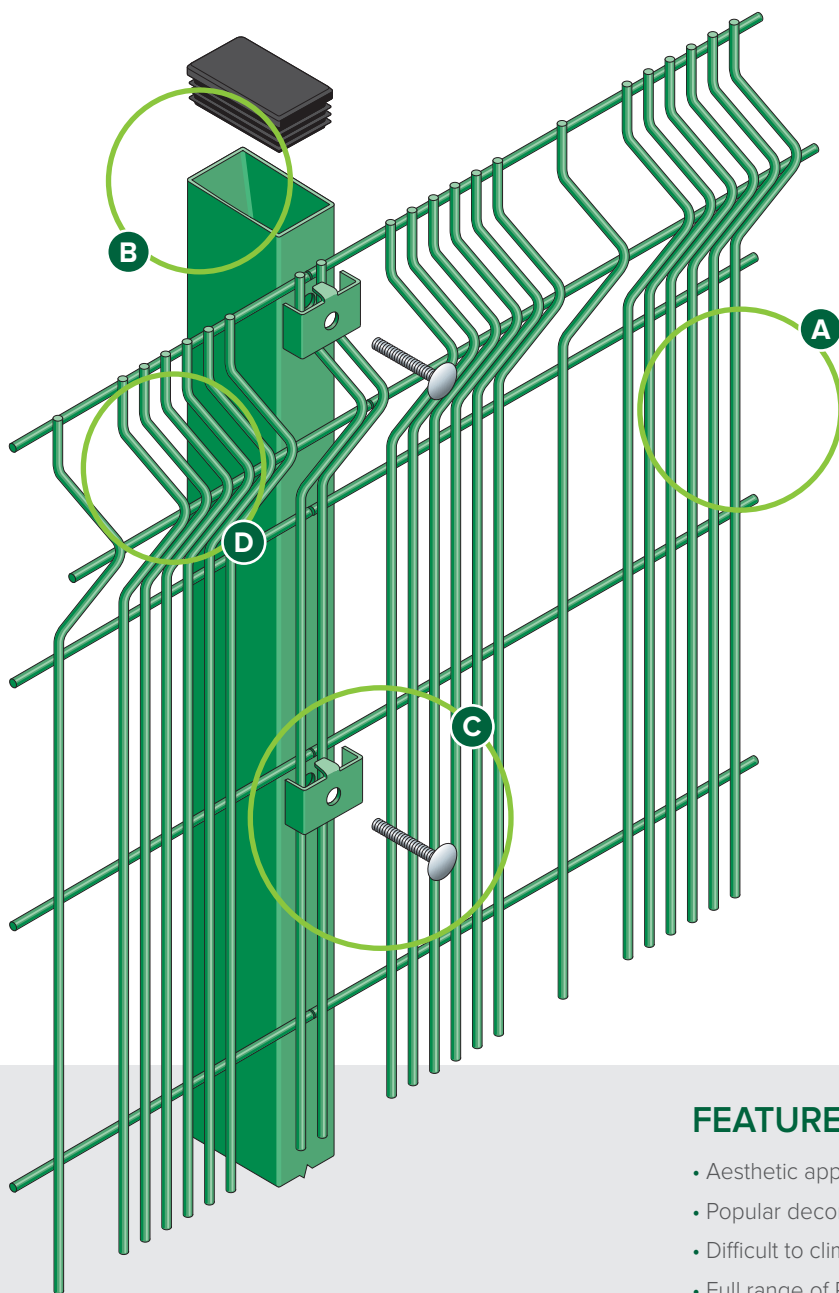
Colours/Finishes



THE COLOURS SHOWN ARE A GUIDE ONLY.
PLEASE CHECK A COLOUR CHART TO SEE THE ACTUAL COLOUR.

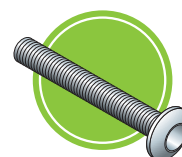
MULTIPLUS™

PROFILED PANEL SYSTEM



- A** Anti-climb close mesh
- B** Galvanised and polyester powder coated panels and posts
- C** Steel security clip with pin hex bolts for added security
- D** Profiled for extra strength

Conforms to **BS1722: Part 14**



Sheardrive™ option



Exploded view of post and clip for Multiplus panel system

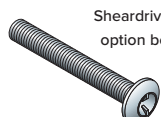
FEATURES

- Aesthetic appearance
- Popular decorative effect
- Difficult to climb
- Full range of RAL colours available

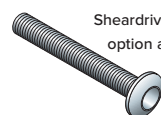
SUITABLE FOR

- Public buildings
- Schools
- Car parks
- Industrial buildings

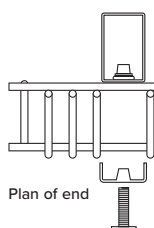
SYSTEM DETAILS



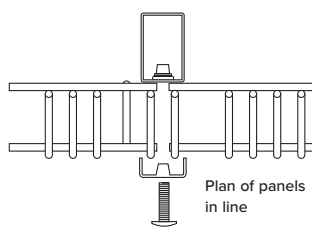
Sheardrive™ high security option before shearing



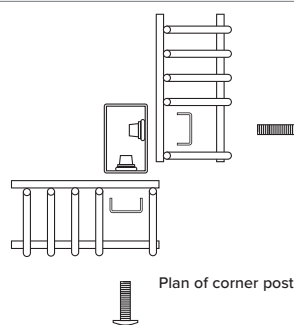
Sheardrive™ high security option after shearing



Plan of end



Plan of panels in line



Plan of corner post

CALL 01270 764751 OR VISIT WWW.CLD-FENCING.COM



DESCRIPTION

Offering a variable aperture mesh panel system that is both difficult to cut through and climb, the Multiplus™ profiled rigid mesh panel system is the next step in perimeter security solutions.

The welded steel wire mesh panels feature large upper profiles for extra strength and groups of 6 wires at 25mm wire centres followed by 45mm mesh apertures. This ever-popular decorative effect gives your fencing a uniquely stylish 'striped' appearance and offers increased security for your fence line.

Multiplus™ looks great around public buildings, schools, retail premises and industrial buildings. Featuring steel security clips and hex bolts fastening each panel to the galvanised 60 x 40mm RHS steel posts, this fencing system is built to last.

Multiplus™ conforms to BS 1722-14 for open mesh steel panel fences, providing excellent quality assurances and is covered by our 15 year guarantee.

FINISH

Our welded steel wire mesh, perimeter security fencing panels are galvanised and polyester powder-coated, after stringent cleaning and treatment, to give a well adhered coating of 60 microns. RAL range of colours available.

PANEL DIMENSIONS

Heights	1800, 2000, 2400, 3000mm
Panel width	3000mm
Mesh size	200 x 45mm (200 x 25mm variable)
Wire diameter	4mm vertical and 6mm horizontal
Triangular folds	3
Top edge projection	Nil wire is flush on all edges

All dimensions are nominal



SLOPING GROUND

Panels can be stepped as required. Where gradients exceed 1:20 or 1:16, it is recommended that taller panels are either part-buried or additional posts are used.

VARIATIONS

In addition to the standard posts many variations are available to accommodate site requirements:

- Alternative sections
- Wall fixing plates, cranked posts or base plated
- Cranked or straight extensions for barbed or razor wire
- Cranked panels

DIMENSIONS

Posts	60 x 40mm RHS (up to 2400mm) 80 x 40mm RHS (3000mm)
Clips	47 x 25 x 3mm
Post centres	3010mm

MULTIPLUS POSTS AND CLIPS

The RHS posts are supplied complete with a 3 mm thick clip that locates down the side of the post, fixed with M8 bolts into threaded inserts. Alternative method of fixing is available as Sheardrive™ or through fixing cup square bolts and shear-nuts.

