

APPROVAL OF CONDITIONS
6 Manor Gardens Ruislip
REF - 10216/APP/2018/2005

JULY 2020

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1.0 Background

- 1.1 This submission deals with approval of conditions imposed by Hillingdon Council for the Approval application 10216/APP/2018/2005.

Description: Two storey, 2-bed attached dwelling with associated parking and amenity space and installation of vehicular crossover

- 1.2 This submission aims to seek approval for conditions;

3. No development shall take place until details of all materials and external surfaces have been submitted to and approved in writing by the Local Planning Authority. Thereafter the development shall be constructed in accordance with the approved details and be retained as such.

Details should include information relating to make, product/type, colour and photographs/images.

REASON

To ensure that the development presents a satisfactory appearance in accordance with Policy BE13 Hillingdon Local Plan: Part Two Saved UDP Policies (November 2012)

4. No development shall take place until a landscape scheme has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include: -

1. Details of Soft Landscaping

1.a Planting plans (at not less than a scale of 1:100),

1.b Written specification of planting and cultivation works to be undertaken,

1.c Schedule of plants giving species, plant sizes, and proposed numbers/densities where appropriate

2. Details of Hard Landscaping

2.a Refuse Storage

2.b Cycle Storage

2.c Means of enclosure/boundary treatments

2.d Hard Surfacing Materials

2.e External Lighting

7. Notwithstanding the submitted plans, no development shall take place until details of the proposed crossover, which should not exceed 9.2 m at the kerb line have been submitted to and approved in writing by the Local Planning Authority. Thereafter the development shall be constructed in accordance with the approved details and be retained as such

2.0 Conditions

2.1 - Condition 3 - MATERIALS

Summary:

The list of materials that will be incorporated in the development is below:

Windows: Aluminium Double-Glazed Unit – AluK – 58BW Casement – Refer to accompanying Brochure

Roof Tile – 02 Brown Redland Concrete Plain Tile (see product specification sheet)

Brickwork to match Existing – Wienberger Aldbury Multi Stock (see product specification sheet)



Aluminium Window & Door Systems

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AT ALUK WE BELIEVE
COLLABORATION IS KING.
IT'S WHY WE'RE PROUD OF
THE PARTNERSHIPS WE'VE
BUILT WITH FABRICATORS,
INSTALLERS AND
ARCHITECTS THROUGHOUT
THE UK AND BEYOND

By experts, for experts

It's fair to say we live and breathe aluminium at AluK. From its melting point of 660.32°C, its vital role in the aerospace industry, to its remarkable low density, there's little we don't know about atomic number 13. More importantly, we're experts at using this versatile metal to create high performance and sustainable window and door systems that surpass the needs of fabricators and installers across the UK.

From the production line to our design and sales offices, every member of the AluK team is a leader in their field. It's this collective expertise and our traditional family values that has enabled us to design, engineer and manufacture industry-leading façade systems for over 20 years.

Boasting slimmer sightlines and greater feature options, all our products are manufactured to the highest UK standards. So whether commercial or residential, modern or traditional, you can be confident our experts will ensure every AluK product delivers peerless performance and signature style.

Russell Yates
AluK Managing Director

Why choose AluK aluminium systems?

For over 30 years, we've been at the forefront of aluminium window and door design.

But why aluminium?

It's lightweight, strong and almost 100% recyclable.
It doesn't warp or rust and is near maintenance-free.
Plus it's exceptionally versatile and easy to install.
And that's really just for starters.

Design

Without compromising on strength, our aluminium window and door systems are designed to offer your customers the narrowest of sightlines, allowing bigger glazing and providing greater light into their home.

Our integrated systems are designed for maximising profiles and parts, as well as to ensure fast fabrication and a wide range of installation options.

Colour

Access a large spectrum of contemporary and classic colour choices and finishes.

We also offer a range of standard single and dual colour products from stock with our core offer

For full core offer details email info.uk@aluk.com

Security

We understand the importance of security to your customers. That's why all our window and door systems are independently tested to ensure they not only meet current security regulations for new builds, but that they're inherently burglar resistant too.

Most of our systems are also certified by PAS 24, Secured by Design and Q-marked accredited.

Thermal efficiency

Our window and door systems offer award-winning U-value performance for both double and triple glazing.

In fact, we were the first company to ever gain an A-rated aluminium double glazed window system in the market.

Performance

Each system includes water and acoustic barriers, and utilises the latest manufacturing technologies and techniques to provide long-term peace of mind.

They also have integrated drainage paths that allow water to pass through the system.

This, combined with the high quality air seals and barriers, ensures they can tackle the everchanging British climate with ease.

Window Energy Ratings (WERs)

Our aluminium window systems are rated for their energy efficiency using the familiar A-G scale. This means homeowners and architects can instantly see which windows to choose.

WERs also affect fabricators, because in order to supply WER

products a fabricator must join an official and recognised scheme.

This is to ensure that manufacturers can prove they have audited processes in place and that the ratings displayed are accurate. As you'd expect, we have our own group scheme at AluK.

This provides members fast track access to all our WER data, saving them valuable time and effort.

For a more detailed look at the ratings, download our **WER guide** at aluk.co.uk

Service excellence

Expert service is key at AluK, so our trained architectural technicians and engineers are always on hand to offer guidance and support from design through to installation.

We also have highly experienced Project Consultants able to help with design, system selection, construction details and project specifications for your specific sector.

AluK Academy

Training is another key service we provide. From CPDs and toolbox talks to hands-on guidance at our Academy Centre, we provide a wide range of training options to all our customers.

To find out more simply email training.uk@aluk.com

An AluK system for every application

If there's one thing homeowners, architects, installers and fabricators all have in common, it's the desire for choice. That's why we've created our wide range of aluminium façade systems, which meets the needs of different applications, performance and aesthetic demands.

To make life easy for homeowners, we've created three product ranges based on their individual requirements.

- For those looking for the thinnest sightlines and finest finish, there's our premium Infinium sliding door.
- If outstanding quality and standout at a competitive price is desired, the Luminia range is the obvious choice.
- While stylish design and everyday practicality is provided by the Optio range.

From a fabricator and installer perspective, we offer systems that cover everything from heavy duty and light commercial new builds, to large-scale refurbishment projects and residential new builds.

Whatever choice you make, you can be confident that our systems offer the superior performance and quality of aluminium through and through.

Residential



Multi-Residential



Light commercial



Commercial

Tested, tried and trusted

From trusted favourites to the latest innovations, our comprehensive range of aluminium window and door systems has been designed and developed with fabricators, installers and homeowners in mind at every stage.

Furthermore, every system delivers the aesthetic appeal and exceptional build quality demanded by the industry.

It also goes without saying they've all been tested and certified to the latest standards and accreditations.

These include PAS 24, BS4873, Secured By Design and Qualicoat for starters. Not to mention ISO 9001. They also hold Q-Mark Certifications for general

performance windows and enhanced security windows and doors. Should we go on?

Whichever system you choose, we'll work closely with you to ensure you have all the information you require for successful fabrication and installation.

All the latest structural, thermal and wind calculations are available, as is a comprehensive suite of CAD, NBS Specifications, performance and environmental data.

ALWAYS UP TO THE TEST





AluK window systems

For over two decades we've been designing unique aluminium window systems that exceed the performance standards expected in modern building design.

Manufactured to the highest standards, our systems are available in depths of 58mm, 70mm and 77mm, with a wide choice of colours and finishes customers desire, with the performance, quality and flexibility the trade demands.

An extensive range of complementary fittings is also available to ensure every design, whether commercial or residential, is exceptional.

We understand reputations are everything, so it goes without saying that all our aluminium window systems are rigorously tested and meet the most stringent security standards.

They also meet the Secured by Design standard issued by the UK Association of Chief Police Officers, and are BRE A-rated on the green guide.

Functionality and flexibility

We offer a wide range of windows frame options that cater for various applications such as interface depths or bay angles.

We also understand that the ability to combine frame options is a major benefit to both the cost and appearance.

Our frame options include deep head profiles for trickle vents, odd leg frames for accommodating hardware timber and heritage for overcoming stone masonry and cill details.

Equal leg frame options are available from 25mm, 35mm and 55mm options.

Frame extenders are also available for our 70mm systems and for improved U-values.



› Glazing options

Every project is different, which is why our systems allow for both internal and external glazing options.

We also offer glazing add-ons to suit heritage style applications.

› Aesthetics

We offer a wide range of internal and external aesthetic styles. Chamfered, Ovolo, Square or Putty line options can really make any project look modern or traditional.

Our double beaded options allow for internal glazing without the use of dummy vents.

› Openings

AluK windows are available in a full range of opening options; from open in to open out, side hung, top hung, bottom hung and tilt before turn, to French casement, fixed light and multi-light.

DESIGN FEATURES

- › From odd leg and equal leg to deep head and frame reversers
- › Internal and external glazing options
- › PAS 24 certified
- › Integrated systems for maximising profiles and parts
- › Three chamber profile for maximising strength while crimping - achieves perfect corner assembly every time

Optio

58BW Casement

Built to the highest UK standards, this effective and high performance solution offers clean lines and advanced functionality.

Available in either 58mm or 70mm frame depth, casement windows are the perfect choice for both residential and light commercial projects, whether new build or renovation. Windows can also be made to project in or out.



DESIGN FEATURES

- › Certified under the Secured By Design scheme
- › Tested to PAS 24
- › Green guide rated A
- › Integrated deep head profiles for ease of trickle ventilation
- › Unique polyamide thermal break design to improve thermal performance

OPTIONS

- › 58mm or 70mm frame depth to accommodate varying types of applications
- › Project in or project out options
- › Internally or externally glazed to accommodate low and high rise projects
- › Glazing 24mm – 40mm
- › Available in a range of single or dual colour and anodised finishes
- › Available in the following aesthetics: Bay, Chamfered, Square and Ovolo.
- › Available in the following configurations: top hung, side hung, bottom hung, fixed light, multi-light and French casement
- › Available for Lifetime Homes (LFT)
- › Double beaded option allowing for internal glazing without the use of dummy vents
- › Dedicated fixing straps for ease of installation
- › Designed with a Euro groove to accommodate standard locking hardware



› Ovolo



› Chamfered



› Square

SPECIFICATIONS

Performance and accreditation	Outward opening
U-value (double glazing)	1.4 W/m²K
U-value (triple glazing)	1.2 W/m²K
Window energy rating (WER)	B - C
Green guide rating	A rated
Acoustic performance (dB)	Rw (C;Ctr) 42 (-1;-5) dB
Air tightness (Pa)	Class 4 (600 Pa)
Water tightness (Pa)	Class 9A (600 Pa)
Wind load (Pa)	Class E2400 (2400 Pa)
Security	PAS 24
3rd party certification	Q-mark
Secured by design	Yes

Configurations

Opening	Open out
Top hung	✓
Side hung	✓
Bottom hung	✓
Fixed light	✓
Multi-light	✓
French casement	✓

Size limits

Top hung (max weight)	180 Kg
Side hung (max weight)	55 Kg
Bottom hung (max weight)	60 Kg (3 hinges)
Fixed light (max weight)	250 Kg

System features

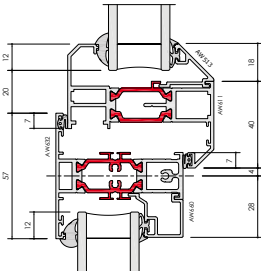
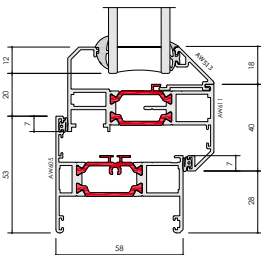
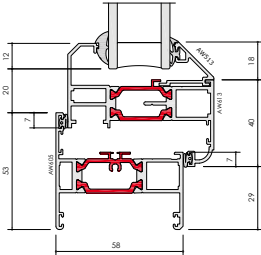
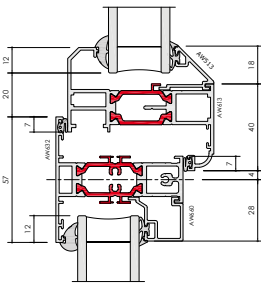
Frame depth	58mm and 70mm
Dual colour option	✓
Multi-point locking	✓
Glazing options	Internal and external bead
Glazing thickness	24mm - 40mm
Sightline (Frame to Vent)	75mm
Sightline (Vent to Mullion)	89mm
Sightline (Fixed Light)	43mm

Aesthetics

Bay	✓
Chamfered	✓
Square	✓
Ovolo	✓

U-value (Double Glazing) - Windows are calculated using EN ISO 10077 - Part 2, 1230mm x 1480mm Side hung next to fixed light with Ug: 1.0 W/m²K using AW603 outerframe and AW610 vent
U-value (Triple Glazing) - Windows are calculated using EN ISO 10077 - Part 2, 1230mm x 1480mm Side hung next to fixed light with Ug: 0.7 W/m²K using AW603 outerframe and AW610 vent
Green Guide Rating - Calculated using the Green Guide 2008 ratings for domestic windows, Powder Coated Aluminium window (Profile <0.88kg/m) double glazed
Acoustic Performance (dB) - Tested using AW605 outerframe and AW620 vent, 10/16/8.4mm Acoustic Laminated Glass
Top Hung (max weight) - Based upon Sterling SPT26 top hung friction stay
Side Hung (max weight) - Based upon Securistyle Sterling SP5H16 side hung friction stay
Bottom Hung (max weight) - Based upon 3 x RW20M hinges

CAD CROSS SECTIONS

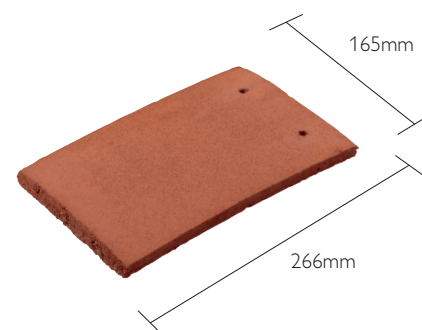


Plain Tile

Available in a range of thirteen natural shades, granular; through-coloured and acrylic coated, to match any roofing environment.

KEY ADVANTAGES

- Versatile concrete tile with wide scope for a variety of roofing effects
- Quick and easy to lay
- Smooth, coated and sanded finishes to blend with every regional roofing style



PRODUCT DATA

Size (overall)	268 x 165mm
Minimum Pitch	35°
Maximum Pitch (subject to fixing specification)	90°
Minimum Headlap	Below 90° 65mm / at 90° 35mm
Maximum Headlap	88mm
Minimum Gauge/Batten Spacing	88mm
Maximum Gauge/Batten Spacing	below 90° 100mm / at 90° 115mm
Hanging Length (approx.)	248mm
Cover (all figures are net and do not allow for wastage)	
Linear cover of 1 tile	165mm
Covering capacity	below 90° 60 tiles/m ² / at 90° 52 tiles/m ²
Weight	below 90° 75kg/m ² / at 90° 65kg/m ²
per pallet, including pallet (approx.)	1.01 tonnes
per 1000	1.25 tonnes
Battens Required (at max. gauge)	below 90° 10.0m/m ²
Batten Size	
Rafter centres up to 600mm	38 x 25mm
Fixing Clips	Top Tile Clips
Nail Size for Tiles**	40 x 2.65mm (A/A)
Pallet Quantities	Tiles per pallet 768 / Tiles per pack 16 / Packs per pallet 48

*All weights nominal ** (A/A) Aluminium Alloy

FITTINGS & ACCESSORIES

ORNAMENTAL TILE

Club Tiles

HIP PRODUCTS

Universal Bonnet Hip
Third Round Hip
Baby Ridge
Rapid Hip

VALLEY PRODUCTS

Universal Valley Tile
125 GRP Valley
Dry Valley

RIDGE PRODUCTS

Half Round Ridge
Half Round Monoridge

VENTILATION SYSTEMS

RedVent EavesVent
RedVent 25 Over-Fascia Vent
Top Edge Abutment Ventilation
DryVent Ridge
Rapid Vented Ridge
Uni-Vent Rapid Ridge/Hip
DryVent Monoridge
RedLine Ventilation Tile
Rapid Roof Vent
8.8k ThruVent Tile



Plain Tile

Product Codes

TILES

Standard Tile	6151
Eaves/Top Tile	6154
Tile-and-a-half	6159

UNDERLAYS

Spirtech 400 2S underlay	9202
Divoroll Elite 25	9157
Divoroll Universal 25	9156

EAVES PRODUCTS

RedVent EavesVent 350-450mm (6m)	9189
RedVent EavesVent 450-600mm (6m)	9190
Extension Trays 350-450mm (6m)	9498
Extension Trays 450-600mm (6m)	9499
Rapid EavesVent 2-in-1 Tray	9988
Rapid EavesVent Rafter Roll (6m)	9984
RedVent 25 Over-Fascia Vent (6m)	9593
Underlay Support Tray (1.5m)	9076

HIP PRODUCTS

Continuous Hip (5m)	9502
Third Round Hip/Ridge Junction	9521
Uni-Vent Rapid Ridge/Hip (10m)	9313
Uni-Vent Rapid Hip Support Tray (1.2m)	9069
Third Round Hip (without nail holes)	8122
Third Round Hip (with nail holes)	7411
Hip Iron	9258
Third Round Block-End Hip	7784
Mortar Bedded Fixing Kit	9314
Mortar Bedded Fixing Kit	9314

VALLEY PRODUCTS

125 GRP Valley (3m)	9595
Dry Valley (3m) (Low Profile)	9575
Universal Valley Trough Tile	7175

ABUTMENT PRODUCTS

Wakaflex Rapid Flashing	
Top Edge Abutment Ventilation Pack(3m)	9548
Bonding Gutter (High Profile) (3m)	9578

RIDGE PRODUCTS

DryVent Ridge (1.8m)	9058
Uni-Vent Rapid Ridge/Hip (10m)	9313
Continuous Ridge (5m)	9302
Ridge Vent Terminal	7253
Ridge Vent Terminal Adaptor	9175
Flexible Pipe (100 to 100mm)	9172
Gas Flue Ridge Terminal	7241
Gas Flue Ridge Terminals Extension Adaptor	9143
Gas Flue Blanking Plates	9099
Half Round Ridge	8101
DryVent Monoridge (2.7m)	9084
Half Round Monoridge	7203
Mortar Bedded Fixing Kit	9314

VENTILATION TILES

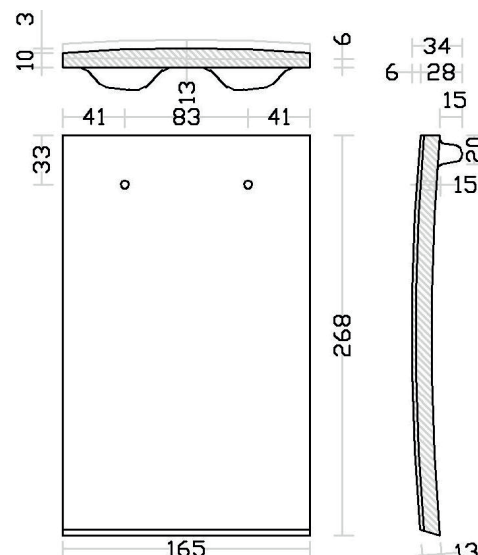
RedLine Plain Tile Vent	9119
RedLine Vent Adaptor	9175
4.5k ThruVent Tile	7347
ThruVent Flexible Pipe (75 to 100mm)	9188
Rapid Roof Vent	9128
Rapid Roof Vent Adaptor	9175
Flexible Pipe (100 to 100mm)	9172

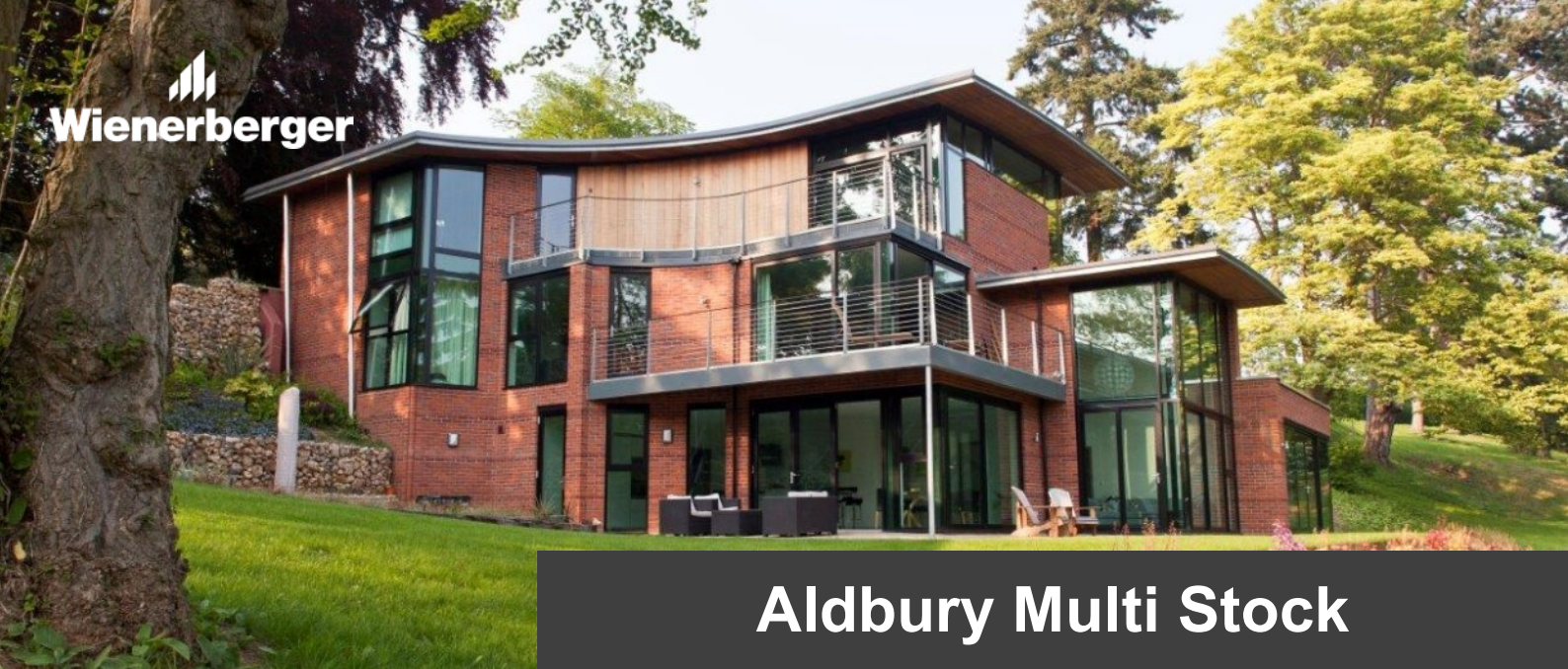
EXTERNAL VERTICAL ANGLES

External Angle 90° LH	8134
External Angle 90° RH	8135
External Angle 135° LH	7142
External Angle 135° RH	7143
Eaves Clip Nail (812)	9338

FIXING

Tile Nail (1596)	9331
Top Tile Clip	9282
Kro-Clip (50)	9142





Aldbury Multi Stock

Product Technical Information Sheet

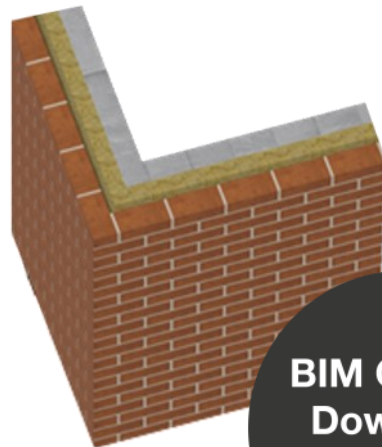
Wienerberger Code	114514
Production Plant	Bemmel (Netherlands)
Manufacture	Soft Mud Moulded Stock
Configuration	Frogged
Colour	Red Multi
Appearance	Flat/Sanded
Work Size (mm)	215 x 102.5 x 65
Pack Quantity	596 No.
Individual Dry Brick Weight (kg)	2.2

Technical Properties to BS EN 771-1

Size Tolerance (Mean/Range)	T1/Rm
Gross Dry Density (kg/m ³ /Tolerance)	1600 (D1)
Compressive Strength (N/mm ²)	≥20
Thermal Conductivity (W/(m·K)) $\lambda_{10, dry, unit}$ value (EN 1745 tabulated: S1)	P=90% 0.41
Durability Designation	F2
Water Absorption (%)	≤15
Initial Rate of Water Absorption (kg/(m ² ·min))	Min. 1.0 Max. 5.0
Active Soluble Salts	S2
Reaction to Fire	Class A1

Issue Date: 08/10/2020

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**



2.2 - Condition 4 -

Refer to Plan 05.

1. Details of Soft Landscaping

As per plan overleaf the garden will be made up of a mixture of permeable paving and real grass lawn to the rear of the garden. The existing Plum trees will be retained. No trees will be removed.

2. Details of Hard Landscaping

The hardstanding area will be formed using permeable materials such as Bradstone Driveway Infiltra System or Marshalls Piora Block Paving both in Brindle Finish – which allows surface water to be discharged slowly into the subbase and into the ground.

2.a Refuse Storage

Two 240l Wheelie Bins (1x for Refuse and 1x Recycling) will be kept at the front of the property on the side of the new dwelling to allow easy access and removal via the side path from the rear of the property

2.b Cycle Storage

Asgard secure stores will be supplied to store up to 3 cycles each for the dwelling.

2.e External Lighting

3 no. wall lights Up and Down LED lights – Aurora EN-WL81

KERBS

THE PERFECT FINISHING TOUCH FOR BLOCK PAVING

If you're looking for a great way to complete the look of your driveway, patio or path, kerbs are the ideal solution. Available as main blocks, radius and corner units, kerbs effortlessly combine style and practicality, providing both an ideal accompaniment to any block paving and preventing vehicular overrun.



	Nominal size (mm)	Colours	Units/pack	Pack weight (t)	m ² /pack	Units/m ²
Large kerb	200 x 125	Bd/Ch/Rd	192	0.90	19.2	10.0
Medium kerb	150 x 150	Ch	240	1.06	24.0	10.0
Small kerb	125 x 125	Bd/Ch/Rd	1	> 0.01	n/a	10.0

Thickness: 100mm Joint width: Butt



Large kerb



HB/BN main unit
LK



HB/BN main unit
LK



HB/BN main unit
laid flat **LK**



HB internal radial
block **LK/A**



BN upright internal radial
block **LK/BI**



BN upright external radial
block **LK/BE**



HB external radial
block **LK/C**



HB upright internal
angle **LK/D**



HB upright external
angle **LK/E**



BN upright internal
angle **LK/F**



HB upright external
angle **LK/G**



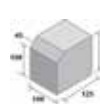
Medium kerb



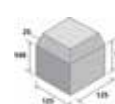
Main unit
MK



Small kerb



Main unit
SK



External angle
SK/A



Internal angle
SK/B



External radius
SK/D

For more information on kerbs visit www.bradstone.com

BRADSTONE

LAYING INFILTA BLOCK PAVING A STEP BY STEP GUIDE



If you want this look but don't want to do it yourself visit: www.bradstone.com/assured

BRADSTONE

LAYING INFILTA BLOCK PAVING A STEP BY STEP GUIDE

Concrete block permeable paving differs from conventional block paving as it allows rainwater to filter through gaps between the blocks into a stone sub-base below where there is enough space to store the water for a short time. It can then either soak into the ground or into drains to collect the water for re-use.

DESIGN

When assessing the design of a permeable paved driveway considerations should be given to levels, soil permeability and soil strength.

Infilta block paving is laid in a similar way to normal block paving (see laying guide on block paving).

The main difference between laying normal block paving and Bradstone Infilta are as follows:

- Conventional MOT Type 1 is not used for the sub base as it is not free draining, the Bradstone 20mm open graded Drainage Aggregate is used.
- It is best to prevent vehicles running on the sub base during construction if possible, as they will cause rutting in the loose surface.
- Once the blocks are laid it is restrained in the conventional way with a kerb or edging and provides more than adequate support to traffic.
- In free draining applications, a suitable geotextile should be placed at formation level (overlapping joints by 300mm), below the drainage aggregate sub-base.



- Where the sub-base is designed to hold water an impermeable membrane lining should be used.

STEP 1: The depth of the sub-base will be governed by the strength and type of the underlying ground. Typically you will need to be around 200mm deep on soils of good strength and 500mm in areas of poor soil strength.

STEP 2: The laying course uses Bradstone Bedding Aggregate, a 6mm angular, open graded material. Unlike normal bedding sand, it is free draining and therefore it does not require any control on moisture content.



- The laying course should be 50mm thick, rather than 30mm for conventional paving and it is not compacted before the blocks are laid.
- Once laid, and prior to jointing, a light pass over with a whacker plate with a rubber mat is required.



STEP 3: Bradstone Infilta blocks have a nominal joint width of 5mm which is greater than normal block paving

STEP 4: Bradstone 3mm Jointing Aggregate should be used for joint filling. Brush in and after ensuring there is not loose aggregate on the surface that could mark the blocks, another pass with the whacker is required.



- Finally, brush in more aggregate to fill voids as required.

NOTES

- The preparation and levelling of the bedding surface is critical as an aggregate bedding layer will not be compacted as with conventional block paving.
- The above guidance applies to driveways for domestic car traffic only.
- The laying of permeable surfaces using Bradstone Infilta block paving should follow the guidance in BS7533 Part 3.
- Bradstone recommend that permeable paved driveways should only be laid by trained, competent installers.

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If you want this look but don't want to do it yourself visit: www.bradstone.com/assured

DRIVEWAY INFILTA

THE DRIVEWAY SOLUTION THAT DRAINS AS IT RAINS.

Driveway Infilta offers a stylish appearance and elegant good looks. This clever block paving solution has a practical side to it too, because when it's laid as part of a permeable driveway solution it allows water to drain away between the blocks. So, it's a perfect choice of product when you need to satisfy the strict legislation regarding front of homes.



Autumn (Au)



Brindle (Bd)



Red (Rd)



Charcoal (Ch)

	Nominal size (mm)	Colours	Units/pack	Pack weight (t)	m ² /pack	Units/m ²
Paver	200 x 100	Au/Rd/Bd/Ch	404	0.99	8.08	50.0

Thickness: 60mm



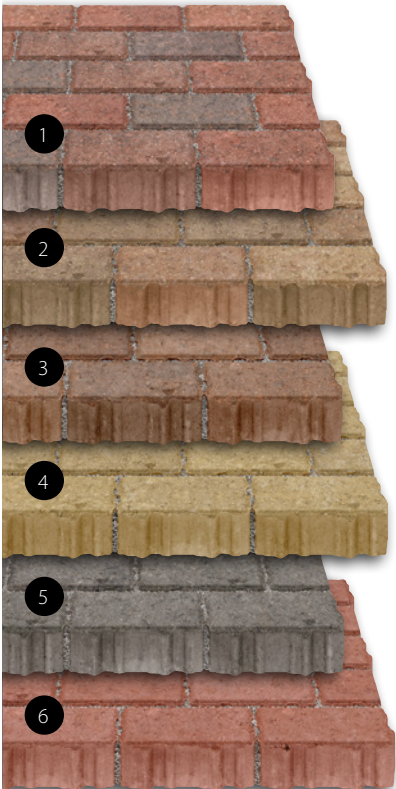
Image: Driveway Infilta paving in Charcoal.



DRIVELINE[®]
PRIORA[®]
Patented Permeable Block Paving



Complete The Look
Recommend: Driveways p163 Kerbs p169



PERMEABLE DRIVEWAYS

Versatile and elegant sustainable driveways

The ideal permeable driveway solution, available in a range of attractive and popular colour options to enhance every home. No planning permission or additional drainage is required – Driveline Priora manages driveway drainage by allowing surface water to pass through the joints directly into the ground below, so not overloading the drains and reducing flood risk.

	Sizes mm (nominal)	No. items/ pack	m ² /pack	Colours
Single Size Pack	200 x 100 x 60	404	8.08	BRI BRA BO B CH R

- 1: DRIVELINE PRIORA, Brindle (BRI)
- 2: DRIVELINE PRIORA, Bracken (BRA)
- 3: DRIVELINE PRIORA, Burnt Ochre (BO)
- 4: DRIVELINE PRIORA, Buff (B)
- 5: DRIVELINE PRIORA, Charcoal (CH)
- 6: DRIVELINE PRIORA, Red (R)

Main image: DRIVELINE PRIORA, Brindle (BRI)
edged with DRIVELINE PRIORA, Charcoal (CH) and
DRIVELINE 4-in-1 Kerb, Charcoal (CH)

Secondary image: DRIVELINE PRIORA, Bracken (BRA)

This product comes with specific installation
guidelines. Please contact our Technical Advisory
Team on 0370 411 2233 or visit our website
www.marshalls.co.uk prior to installation.

For more product notes see P 172-175 or website.



Priora is a trademark of UNI-International Bausysteme GmbH





GRASSGUARD®

Permeable Driveways

Complete The Look
Recommend: Walling p97 Kerbs p168, 169

Sustainable occasional parking provision

Versatile and hardwearing Grassguard is a supplement to a block paved driveway for occasional parking. No planning permission required – Grassguard deals with rainfall run off in a sustainable way and retains all the environmental benefits of a natural grassed area.

	Sizes mm (nominal)	No. items/ pack	No. /m²	m²/pack	Colour	Order Select
Single Size Pack	500 x 300 x 100	64	6.67	9.6	Earth Brown	✓*

*Order select minimum, one 500x300x100 piece



1: GRASSGUARD, Earth Brown

Main image: GRASSGUARD area adjacent to DRIVESETT ARGENT PRIORA, Light (LT)

This product comes with specific installation guidelines. Please contact our Technical Advisory Team on 0370 411 2233 or visit our website www.marshalls.co.uk prior to installation.

For more product notes see P 172-174 or website.


CO₂/M²


MID RANGE





NEW

DRIVEGRID®

Permeable Driveway Grid

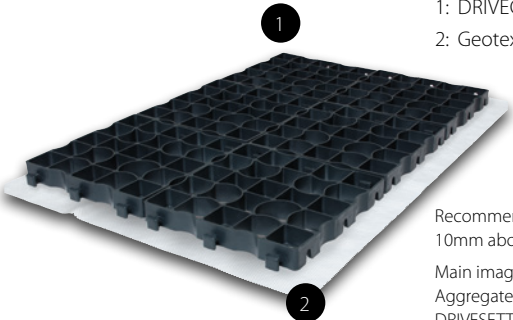
Complete The Look
Recommend: Driveways p154 Kerbs p168

Stabilising permeable driveway grid

This new Drivegrid System includes an improved high quality, premium grid that holds and stabilises gravel driveways and paths and a Geotextile to help prevent weed growth. Rainwater will run through the cells and into the ground below, so no planning permission is required and the choice of 6-10mm decorative aggregate is perfect for traditional or contemporary schemes.

System Pack	Sizes mm (nominal)	No. items/ pack	m²/pack	Colours	Order Select
Stabiliser Grid	330 x 330 x 40	108	11.76	Black	✓*
Geotextile Membrane	2250 x 6000	1		White	
Aggregate	Bulk	1		Golden Blend 10mm Multi Flint Spar Sea Washed 10mm	

*Order select minimum, one 330 x 330 x 40 piece



1: DRIVEGRID, Black
2: Geotextile

Recommended decorative aggregate coverage 10mm above grid
Main image: DRIVEGRID with Decorative Aggregate, Golden Blend 10mm. Edged with DRIVESETT ARGENT Edging, Light (LT) and DRIVESETT TEGULA, Pennant Grey (PG)

This product comes with specific installation guidelines. Please contact our Technical Advisory Team on 0370 411 2233 or visit our website www.marshalls.co.uk prior to installation.

For more product notes see P 172-174 or website.


CO₂/M²

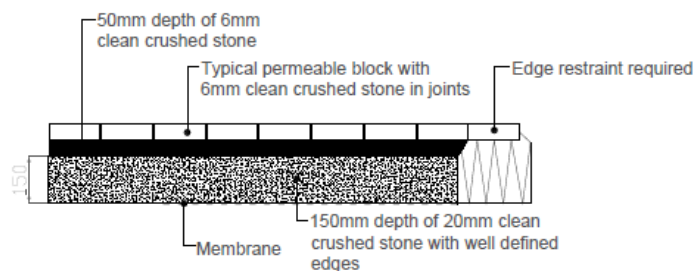

STANDARD

INSTALLATION DETAILS FOR DRIVELINE PRIORA PAVING

Health and Safety Information

Safe working practices should be employed at all times during the construction process and all necessary Personal Protective Equipment (PPE) should be worn.

Check for services and contact the service provider for advice if gas or electric services run through the intended Priora site. Care must be taken when constructing over sewer, rainwater & water pipes to ensure that the services remain supported for their full length by undisturbed material and are surrounded on the remaining sides by a minimum of 150mm of 6mm material.



7 Typical section through a driveway constructed in accordance with Marshall's Register Installation Procedures
D02 Scale 1:20 @ A3

Aggregates required

1 cubic metre equals 1.8 tonnes

Sqm drive	10	20	30	40	50	60	70	80	90	100
20mm tonne	3.5	7	10.5	14	17.5	21	24.5	28	31.5	35
6mm tonne	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0

for laying course

6mm Jointing Aggregate – 8kg per sqm

- Priora must be laid with a 20-6mm and 6-2mm clean graded angular aggregate (Open Graded Crushed Rock and Open Graded Crushed Gravel)

- The aggregate is available from Hanson Group direct on a dedicated phone line 0845 600 1616

Pavement design

For most domestic applications a sub-base of 200mm of 20-6mm clean crushed stone with well defined edges should prove to be sufficient. However the paving design must be based upon the prevalent ground conditions and type and frequency of anticipated loads.

Excavation

To allow the new permeable block paving to be installed correctly, a certain amount of excavation is usually required. The depth of this excavation will be the thickness of the required sub-base plus the laying course and the blocks. An extremely important factor to consider when working out the depth of excavation is that the finished surface level of the blocks must be a minimum of 150mm below the DPC (damp proof course) to prevent problems with rising damp.

Edge restraints

Edge restraints should be sufficiently robust to resist the lateral displacement from imposed loadings placed upon the pavement and are installed prior to the installation of the sub-base. The restraint must provide a consistent vertical face to a level below the laying course material.

For steep inclines or gradients, (greater than 1:20) the provision of intermediate restraints should be considered. Their spacing should be related to the severity of incline and overall area of paving.

Construction considerations

The sub-base material should be placed in layers not exceeding 150mm in thickness or twice the nominal maximum aggregate size and should be suitably compacted before the next layer is placed. Unlike traditional pavement construction, the open-graded materials should not be fully compacted to eliminate any voids, as this will compromise the performance of the system.

Due to the nature of both the sub-layers and the block paving, care should be taken during the construction process to prevent dirt and detritus contaminating the sub-base and compromising the permeability of the system. The trafficking of the sub-base as a site access route should not be undertaken.

Should other construction or maintenance work take place close to the pavement which may affect the infiltration of the pavement, suitable protective measures should be taken.

Laying course

The final target thickness for the laying course should be 50mm.

Tolerances for laying course material are +/-20mm. However, due to the nature of the open-graded material, a reduction in the ability to reduce the thickness of the laying course due to compaction would be experienced when compared to a sand laying course. Therefore, it is important to ensure the initial placing and screeding of the open-graded laying course is as accurate as possible.

It may prove advantageous to trial a small area of open-graded material to ascertain the characteristics of the material under compaction to ensure accurate levels are achieved. Should any disturbance of the screeded laying course material occur prior to the placement of the blocks, the affected area should be re-screeded to ensure consistency between the affected area and the surrounding laying course. When screeding rails are removed on completion of the installation of the laying course, the affected area should be filled and re-screeded with corresponding laying course

material and manually compacted. Care should be taken not to disturb adjacent prepared laying course material.

Baffles

Baffles are intermediate concrete barriers used on sloping sites to prevent water flowing to the bottom of the slope and collecting there and subsequently coming out of the joints between the blocks.

Length across fall	Gradient					
	1 in 500	1 in 250	1 in 100	1 in 50	1 in 25	1 in 10
5	0	0	0	0	0	2
10	0	0	0	0	1	4
20	0	0	0	1	3	9
30	0	0	1	2	5	14
40	0	0	1	3	7	19

Wearing course

Laying

Paving units should be installed on the laying course material so that the final level is within the permitted surface tolerance. String lines should be utilised as often as required. This is necessary to ensure the bond pattern is maintained and straight lines are achieved in the finished paving.

The manufacturing tolerances of the paving units, profile of the site and frequency of string lines should be taken into consideration during installation.

Paving units should be laid such that the joint profile interlocks with its neighbouring units. Joint widths may be varied slightly in order to achieve straight lines or maintain bond. When laying block paving, the blocks should be mixed simultaneously from a minimum of 3 packs, taking vertically from each slice offered by the pack. This is necessary to ensure an even distribution of both the colours and any manufacturing tolerances offered by the blocks.

Lay whole units first, followed by cut units around obstacles or at edges. No paving unit should be cut down to less than one quarter of its original size to prevent looseness or dislodgement at a later date. Where it appears that only a small section of block will fit, the "inboard cutting" technique should be adopted. The use of a larger or full unit against the edge restraint, allows a small unit to be placed in the resulting space.

Where slopes, gradients or ramps are being constructed, placement of the paving units should commence at the lowest point ie: the bottom of the slope, working upwards. Where there is a risk of lateral movement of the paving units due to the gradient encountered, the provision of additional intermediate restraint should be considered.

Compaction

Compaction should be undertaken with a plate vibrator. Prior to final compaction of the surface, joints should be filled with the same grading of material as that used for the laying course. All joints should remain full of jointing material at all times, with periodic checking and replacing carried out where necessary.

General

The bond pattern should be suited to the application and likely use of the paving. Areas which receive frequent vehicle turning, accelerating or decelerating should be laid in a herringbone pattern. Stretcher bond may be used successfully in very lightly trafficked areas, providing the direction of the traffic is perpendicular to the laying

pattern and the paving is not subjected to the above movements. Basket weave patterns should not be used in areas receiving vehicular traffic.

Cutting

Cutting may be carried out using a diamond tipped power saw, a block-splitting guillotine, or hammer and bolster. It must however be noted that the aesthetic finish achieved will depend greatly upon the choice of cutting mechanism and the skill of the installer. Cut blocks should be inserted prior to completion of the working period to prevent any movement of unrestrained blocks. Blocks should be cut such that the resultant joint width remains within the 2-6mm tolerance. When laying to tight curves it may not be always possible to maintain a maximum 6mm joint, in which case, cut or special shaped units may have to be considered.

Maintenance

In brief, Marshalls would recommend:

- Inspect at least twice a year, spring and autumn, and/or after a major storm
- Brush the surface to remove debris and encrusted sediment
- Maintain the area to be free of vegetation
- Replenish the joints when empty
- Ensure that the owner is aware of the pavement construction and the “do’s and don’ts” of the system

Further Information

For technical advice on commercial installations, or when confronted by unusual problems or circumstances, please contact Marshalls Technical Advisory Services on 0370 411 2233, or by email on advisory.services@marshalls.co.uk

CONDITIONS AND GUIDELINES

Definition of scope

In some parts of the country there are ground conditions where infiltration could adversely affect foundations to houses, therefore, if in doubt seek advice from a specialist or the local authority building control department.

Domestic Priora is only intended for domestic driveways, paths and patios which are subject to foot traffic or over-run by typical domestic vehicles that do not exceed a gross vehicle weight of 3.5 tonnes, although occasional use by heavier delivery vehicles should not have a detrimental effect.

The domestic Priora system is only intended for driveways or path where infiltration only is required in which the area must drain itself only and no other surrounding paved or roofed areas.

Properties constructed pre-1920's may not have been built on a concrete foundation; therefore, if this is proved to be correct, then the Marshalls' domestic Priora system should not be installed.

Soil strength

Marshalls' domestic Priora system must be either installed on a sub-grade which has previously had an established existing driveway* or on an area which has sub-grade soil strength greater than 5%

Laying onto a sub-grade which has previously taken an established driveway proves that the sub-grade was able to take the driveway construction. The standard designs are based on conditions where the sub-grade is greater than 5%, therefore, this is mirrored in our advice

Rock or Soil Type	Condition	Simple field test	CBR
Rock	Hard	Requires mechanical pick for excavation	Above 5%
Sand Gravel	Compact	50mm square peg hard to drive in 50mm	> 5%
Clay Sandy Sandy Clay	Stiff	Cannot be moulded by fingers Need pick for excavation	5% - 2%
Clay Sandy Clay	Firm	Can be moulded by fingers Need spade for excavation	5% - 2%
Sand Silty Clay Clayey Sand	Loose	Dry lumps easily broken down 50mm square peg driven in easily	2%
Silt Sandy Clay Silty Clay Clay	Soft	Can be easily moulded by fingers	<2%
Silt Sandy Clay Silty Clay Clay	Very soft	Exudes between fingers when squeezed seek advice	

The CBR of the rock or soil is significantly affected by moisture

Soil permeability

The domestic Priora system is only suitable for soil areas where infiltration applies and the test criteria have been met according to the standard permeability test. For the standard permeability test, a test hole should be dug for every 20m² of driveway. There should be a minimum of two holes. Holes/pits should be spaced evenly in relation to the proposed Priora area. The soil test is the key. If the sub-grade soil is not permeable then domestic Priora cannot be installed.

Surface gradient

- The intended Priora area must fall away from the property. The top surface of the driveway should finish at least 150mm below any adjoining DPC level.
- The area should also fall away from all properties and buildings.
- If the intended Priora system falls to the house, then depending on the gradient, water could discharge and pool in and around areas of the house structure. This could lead to damp areas appearing on the masonry leaf.
- If the driveway exceeds 20m in length and has a gradient greater than 1 in 100, then please contact the Technical Advisory Services Department for assistance.
- Depending on the gradient in relation to the length, additional construction processes will be required by the provision of baffles.

Discharge onto roadway

The domestic Priora area must not discharge onto surrounding public roadways and pathways or towards any buildings

Existing foundations

If the property lies adjacent to or is less than 600mm from the proposed domestic Priora driveway area, establish the depth of the house foundation before undertaking any soil test or Priora installation. The house foundation top surface must be a minimum of 600mm below the finished level of the Priora surface. The foundations area must not be disturbed as the integrity of the building may be affected over time. The level of water discharge must be above the level of the foundations to avoid instability at foundation level.

Rainwater catchment area (Driveway area)

No adjoining surfaces areas (rainwater pipes, roof areas etc) must drain onto and into the Priora driveway area. However, small areas, such as door steps and garage areas are acceptable providing that they don't exceed 5% of the driveway area.

If other areas are drained in addition to the driveway area then the hydraulic calculation will dictate the depth, thus increasing the 150mm depth for the 20mm open graded material.

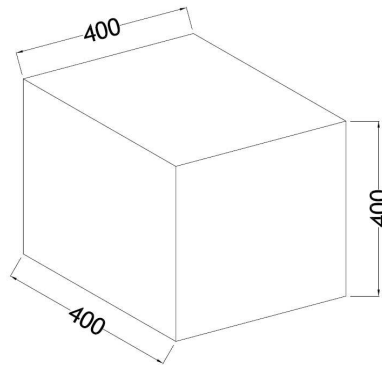
Trees

When installing close to existing trees, tree roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using a suitable pair of secateurs or hand saw. Roots larger than 25mm should only be severed following consultation with an arboriculturist, as they may be essential to the tree's health and stability. Protection of the pavement will also be required, hence the requirement of a permeable root barrier system, such as the Geoweb bio-barrier system (Fiberweb) or similar, which is non-surface protruding, so does not present a trip hazard once

installed. Integrity of the pavement installation and intended life may be affected by the ingress of roots.

SOIL PERMEABILITY – based on the BRE Digest 365 test procedure

- Remove topsoil/paving material to exposed sub-grade soil
- Dig hole within sub-grade soil to the size shown below, ensure that all sides and the bottom surface of the hole are trimmed and levelled accordingly



- Fill hole with water and allow to drain away naturally. Repeat this process 3 times. If the water does not drain away at all then the sub-grade soil does not have adequate permeability properties

All pre-test and test work must be carried out for every 20m² of driveway. There should be a minimum of two holes, equally spaced throughout the intended area to be paved. Due to the maximum length of time that the test may take, the time of day should be considered.



Ethical Trading Initiative

Landscape House, Premier Way, Lowfields Business Park, Elland, HX5 9HT

*Get 10% off all sheds throughout Black Friday & Cyber Monday! **Use code BLK10**

About Us (<https://www.asgardsss.co.uk/about-asgard-secure-steel-storage>)
Contact Us (<https://www.asgardsss.co.uk/contact-us>)
Login / register (<https://www.asgardsss.co.uk/customer/account/login/>)



(<https://www.asgardsss.co.uk/>)

Product Seal

Shopping Cart
£0 (<https://www.asgardsss.co.uk/checkout/cart/>)

08456 580 730⁰ (tel:08456 580 730)

Contact the UK manufacturer

SECURE BIKE STORAGE(<https://www.asgardsss.co.uk/bike-cycle-storage>)

METAL GARDEN SHEDS(<https://www.asgardsss.co.uk/metal-garden-sheds>)

MOTORCYCLE STORAGE SHEDS(<https://www.asgardsss.co.uk/motorcycle-storage>)

CARAVAN SITE STORAGE(<https://www.asgardsss.co.uk/caravan-site-storage>)

HIGH SECURITY SHEDS(<https://www.asgardsss.co.uk/high-security-sheds>)

SCHOOL STORAGE(<https://www.asgardsss.co.uk/school-playground-storage>)

FREE DELIVERY

(/metal-shed-delivery)
For most of the UK mainland*
(/metal-shed-delivery)

10 YEAR WARRANTY

(/10-year-warranty-on-asgard-metal-sheds)
Weatherproof metal storage
(/10-year-warranty-on-asgard-metal-sheds)

INTEREST-FREE CREDIT

0%
(/dividebuy)
£1000
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40 YEARS

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MADE IN THE UK

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Compare us to the rest
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Bike Storage X 3 - Police Approved



£670 WAS ~~£785~~

* Choose your colour - Green

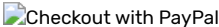


Quantity

1

ADD TO CART

or



(<https://www.asgardsss.co.uk/paypal/express/start/button/1>)

View accessories

4.8/5

[148 Review\(s\)](#)

"Solid and secure with space for three bikes, the Asgard is a good investment for storing your bicycles". "

[Add Your review](#)

Road CC.com

(<https://www.asgardsss.co.uk/review/product/list/id/8form>)

Download

Bike

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Details

Features

Dimensions

In The Press

Customer Reviews

Bundles

Accessories

road.cc
pedal powered

(/roadcc-review-bike-storage-from-asgard)

Cycling WEEKLY

(/metal-storage-accreditations)



LPS 1175: Issue 05
Cert No. 596a/04
(/what-is-lpcb)



Official Police Security Initiative
(/secured-by-design)



(<https://www.asgardsss.co.uk/width-shed-shelf>)

Annexe - Police & Locksmiths Approved - Store 3 bikes**

The Annexe high-security bike storage shed from Asgard is a maximum security (all-metal) bike shed. A UK made bike shed to store your most expensive bikes as well as all your cycling accessories, spares and clothing gear in one place. If you are in a high-risk area where security is an issue, or you just enjoy peace of mind, you'll need maximum protection for your bikes. As with all Asgard storage, the Annexe high-security bike storage shed is built from very thick, heavy gauge galvanised (weatherproof) steel panels and features our heavy-duty integral metal floor - for even more bike security Asgard supply each of our bike storage sheds with heavy-duty ground bolts, allowing you to secure the bike shed to the ground for TOTAL security.

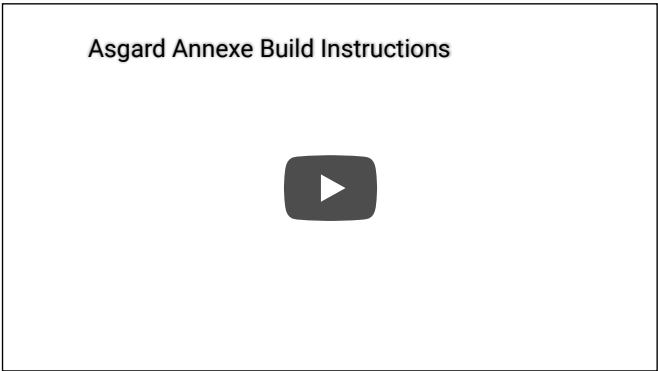
Approved and used by **Road, Cycling Weekly, LPCB and Secured By Design** you can be sure the Annexe is a high quality, secure metal bike shed.

Weight Category Rating



The Annexe high security bike storage is classed as a [Weight Category 2 \(/weight-category\)](#).

[Key Features of the Annexe - Police Approved Bike Storage \(/key-features-of-the-asgard-annexe-bike-shed\)](#).



Police Approved Bike Storage

This high-security bike storage shed weighs in at an impressive 21 stone (138kg) and has a tough 5-point locking system, featuring a drill and pick-resistant locking system. The door and door surrounds are reinforced with 1.6mm box sections to resist crowbar entry as well as a strengthened base plinth to prevent crushing when heavy objects are rolled in. The side door has 10mm steel bolts for additional security, with a reinforced lock shroud inside. All these additional attack-resistant features mean that the Annexe shed is a Police approved bikeshed (Secured By Design).

Accreditations

This Approved bike storage shed is Locksmiths, Police (Secured By Design), and Loss Prevention Certified (to level 1).

- **LPCB (Loss Prevention Certification Board)** (<https://www.asgardsss.co.uk/lpcb-tests>) - certified to level 1 by an independent assessor.
- **Secured by Design** (<https://www.asgardsss.co.uk/secured-by-design>) - the shed has been approved and certified by the Police.
- **UKLA (UK Locksmiths Association)** (<https://www.asgardsss.co.uk/the-asgard-motorcycle-garage-video-review-from-the-ukla>) - built and tested by an independent assessor.

*you must check the size of your bikes before ordering.

Easy Fit - Full Width Shelf
(<https://www.asgardsss.co.uk/full-width-shed-shelf>)

£49

VIEW & BUY NOW

(<https://www.asgardsss.co.uk/annexe-wooden-subfloor>)

Annexe Subfloor
(<https://www.asgardsss.co.uk/annexe-wooden-subfloor>)

£55

VIEW & BUY NOW

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Easy Fit - Half Width Shelf
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Universal Shed Hooks (10 Pack)
(<https://www.asgardsss.co.uk/univers-hooks>)

£20

AURORA[®]

L I G H T I N G G R O U P

S M A R T L I G H T I N G S O L U T I O N S



make smart with



W A L L L I G H T S

WallETM PRO

IP65 Wall Lights

make smart with



3 Year Warranty

L70 30,000hrs

Black, Grey & White finish options

Slim design

Aluminium housing with frosted glass diffuser (not suitable for coastal applications)

IP65 rated

Integrated LED wall light

Supplied with integral non-dimmable LED driver

make smart with



works with

.control

16A

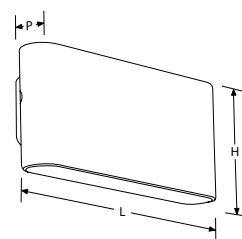
On/Off Relay



Fixed Down
Side profile



Fixed Up/Down
Side profile



EN-WL81

(L) 178mm Length
(H) 76mm Height
(P) 50mm Projection

EN-WL82

(L) 178mm Length
(H) 90mm Height
(P) 50mm Projection

Cat. No.	Description	Watts	Colour	Lumens
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Non-Dimmable

EN-WL81*/40	Down	6W	4000K	310lm
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EN-WL82*/40	Up/Down	12W	4000K	550lm
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*Add suffix **W**, **BLK** or **G** for White, Black or Grey finishes.





2.3 - Condition 5 -

Notwithstanding the submitted plans, no development shall take place until details of the proposed crossover, which should not exceed 9.2 m at the kerb line have been submitted to and approved in writing by the Local Planning Authority. Thereafter the development shall be constructed in accordance with the approved details and be retained as such

Refer to Plan 05.