thread architects
Sheffield & Solihull

The Town Square, Bolsover

Repaving and associated works

DOC 1 - Specification Document

Revision – Rev A

15 11 23 – Rev A Minor alterations and captions added to photographs

21 11 23 – Rev B Reference to additional NBS specification in Appendix 3

Sheffield - 0114 276 2865
www.threadarchitects.co.uk
Thread Architects Limited
Site Gallery, 1 Brown Street, Sheffield, S1 2BS
Company Number: 8597848
Solihull - 07975 578 578

DEMOLITIONS

(Also refer to Appendix 3 – Additional NBS Specification)

The site is currently used as a public square and demolition and removals are required prior to the works described in this proposal being completed. These include but are not limited to:

- Removal of existing planting beds/troughs. There are stone effect plastic containers filled with growing medium and plants. These are to be removed by the Client prior to the main contractor taking possession of the site.
- Removal of the existing fixed furniture – refer to “Fixed Furniture” section below.
- Removal of existing surface finishes to the main square, ramp, and landing. These include paving slabs, in-situ concrete, and tarmac. Laying courses below to be removed until existing subbase exposed ready to be repaired, added to and proof rolled. Refer to the Structural Engineer’s specification.
- Take up existing slot drain, haunching and bedding.
- Take up existing gulley cover.
- Take up line of stone setts to west side of existing drainage channel along boundary with Cotton Street. Make good and reset adjacent setts, as necessary.
- Existing metal handrail to ramp to be carefully removed. Handrail supports to be cut from balustrade, any remaining protrusions from support on balustrades to be ground down and smoothed off before being locally painted to make good.

Figure 1 Upper end of existing handrail to be removed

Figure 2 Midpoint connection of existing handrail to railings to be removed

Figure 3 Base end of existing handrail to be removed - currently built into stonework. Stone work to be made good on removal of handrail.

- Take up existing ramp and subbase to allow for construction of subbase for new steps.

- Take up and remove 2 no existing bollards – note one bollard is a service bollard and believed to have a live electrical feed that must be made safe prior to any works.
- 2 no waste bins to be carefully removed and stored to be fitted on site at completion of works.
- Remove timber boarding and framework to existing bay windows to gable wall facing site. Also remove existing sill and sill support and brickwork to lintel.

Figure 4 View of the boarded former windows to the side gable of 5 Cotton Street

- Site to be left tidy and safe at end of each day. Dust created by demolition works to be minimised – refer to Construction Information Sheet No 36 (Revision 3) from the HSE.
- Planning for all works to refer to "Demolition, dismantling and structural alteration" of HSG150 (latest version).

All materials and items above to be safely disposed of offsite unless stated otherwise.

CDM

Specific on site risks

Public space

- The site is a public square in a town center location. The surrounding area is busy with pedestrian and vehicle movement at all times of the day and is highly accessible from the south and east. The north and west boundaries are protected by existing high stone walls or existing buildings.
- The site and storage areas should be made secure at all times with all necessary signage to prevent ingress.
- Please refer to the attached document (Appendix 1) “HSE Guidance on site protection on construction sites where members of the public may have access”.
- Deliveries to site will be required to cross a pedestrian and vehicular route. Banksmen should be used for guiding vehicles at all times and care taken that vehicles adjacent to the site do not create a risk to pedestrians, vehicles, or access of emergency vehicles.
- Clear pedestrian routes should be maintained at all times to the south and east of the site. If any diversions are necessary, these should be discussed and agreed with the Bolsover Town Council and the Architect and clearly implemented.
- Access to the post box adjacent to the south corner of the site to be maintained at all times.

Services

- Please refer to drawing “Site Services Scan” showing all existing and redundant services on and adjacent to the site.
- To the south corn of the site is an electrical cabinet. Electric power for the site enters at this location and the power for the boundary wall lighting runs from this point. There are also plugs for power for events. The cabinet is fixed to a concrete base. This cabinet is to be protected at all times during the work.

Figure 5 View of existing electrical cabinet

- On the south boundary walls are low level lights with face fixed electrical wiring running between these in galvanized conduit. Where this wiring is adjacent to the foot of the ramp the wiring is exposed (no longer in galvanized conduit) and runs below the surface paving level at an unknown depth. This wiring is to be exposed and made safe prior to works commencing.
- There are two number gullies on the east boundary of the site. These are narrow but deep and care should be taken when working adjacent to them.
- All services to be located and made safe prior to and during works by Contractor. If any services are identified additional to those shown on the existing site services scan information, the services is to be made safe and the architect/client informed immediately.

Surrounding fabric

- The site is mostly enclosed on four sides with existing stone walls – either landscape boundary walls or, to the north of the site, the gable wall of an adjacent private building. Care should be taken to avoid any damage to the face of these walls at all times. Any damage to be notified and recorded to the Architect and made good in a timely manner.

REPAIRS

(Also refer to Appendix 3 – Additional NBS Specification)

Wall repairs

The existing site boundary wall adjacent to Cotton Street (east elevation) is in poor condition. Allow for raking out recent cement based mortar, resetting any loose stones and repointing in lime mortar. Refer to “Repairs” drawing.

Figure 6 South elevation of stone wall to Cotton Street

Figure 7 View of crack through wall

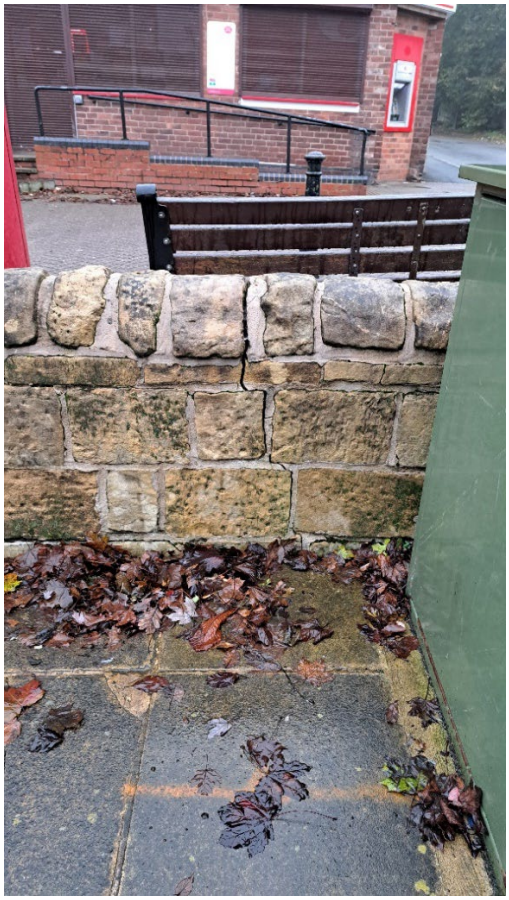


Figure 8 View of crack in wall to north elevation

Figure 9 View of crack in wall from above

Ramp repairs

The retaining wall to the side of the existing ramp has been damaged and a coping stone removed. A new coping stone to match the current half round coping stones to be prepared and fixed in position to enclose the base of the existing balustrade post.

Figure 10 View of current damage to end of wall adjacent to railings

Handrail repairs and removal

Damage to the existing metal balustrade to the ramp to be repaired and made good. Balustrade top realigned and fixed securely to post. Decorate, as necessary.

Figure 11 View of current damage to railings at head of ramp

Existing boarded windows

Two existing window openings to gable facing Market Square to be made good.

Inspect existing lintel and bearing and allow for replacement with suitable angle lintel to support outer leaf.

Allow for infill of existing cavity wall with inner leaf of 100mm blockwork and outer leaf of 100mm coursed limestone to match surrounding stone of gable end. Pointed with mortar to match adjacent mortar – allow for lime mortar externally. Allow for suitable wall ties and glass wool full fill insulation to new areas of wall, TBC with Architect on site.

Figure 12 View of the boarded former windows to the side gable of 5 Cotton Street

MATERIAL SPECIFICATIONS

(Also refer to Appendix 3 – Additional NBS Specification)

Preparation of Subbase and falls across the site.

Refer to Structural Engineers drawings and specification for build-up of subbase below laying courses. Any discrepancies between specification shown below and that of the Structural Engineer to be highlighted and queried with the Architect.

It is proposed that the falls and gradient of the new paving is to match that of the existing paving so that there is no change to the perimeter levels of the paving. All falls to be towards the new slot drainage and existing channel drainage at the edge of Cotton Street. Falls to be constant with no low points other than those adjacent to drainage routes. Cut flags to create falls to be avoided and, if required, minimized and pre-agreed with the Architect. No falls should run towards the boundary walls.

Flag Paving

Marshalls Conservation X Smooth 450 x 450 x 70

Unbound construction to BS7533-101 Traffic Category 5 – Pedestrian areas subjected to occasional overrun of commercial vehicles. Car parks receiving occasional commercial vehicular traffic. ≥0.5msa

Surface course: Marshalls Conservation X Smooth 450 x 450 x 70mm

Colour: Silver Grey

Jointing: Silver granite/ sand – 2mm joint generally up to 5mm max

Laying course: 30mm sand laying course – Class II laid in accordance with BS7533 part 3 2005 + A1:2009.

Base course: 80mm AC20 Bituminous – also refer to structural engineers' specification.

Bituminous base to be AC 20 dense bin 100/150 conforming to BS EN 13108-1. To manage moisture in the pavement, core 50mm dia. Drain holes on a 750mm orthogonal grid at low points and fill with 6mm clean grit. Drian hole to be covered with geotextile material extending min 250mm either side.

Subbase: 250mm MOT Type 1 granular material in accordance with clause 803 of the SHW and BS EN 7533:101:2021 – also refer to structural engineers' specification.

Minimum CBR 2% – also refer to structural engineers' specification.

Marshalls Conservation X Smooth 400 x 400 x 50 (to base of steps)

Unbound construction

Surface course: Marshalls Conservation X Smooth 400 x 400 x 50mm

Colour: Silver Grey

Jointing: Silver granite/ sand – 2mm joint generally up to 5mm max

Laying course: 30mm sand laying course – Class II laid in accordance with BS7533 part 3 2005 + A1:2009.

Base course: 80mm AC20 Bituminous – also refer to structural engineers' specification.

Bituminous base to be AC 20 dense bin 100/150 conforming to BS EN 13108-1. To manage moisture in the pavement, core 50mm dia. Drain holes on a 750mm orthogonal grid at low points and fill with 6mm clean grit. Drian hole to be covered with geotextile material extending min 250mm either side.

Subbase: 250mm MOT Type 1 granular material in accordance with clause 803 of the SHW and BS EN 7533:101:2021 – also refer to structural engineers' specification.

Minimum CBR 2% – also refer to structural engineers' specification.

Alternative paving to Conservation X paving for tender price:

Tobermore Mayfair Flags 450 x 450 x 50 in Silver. Joints should be between 6mm and 10mm and filled with either Type 25 or Type 40 mortar in accordance with Table 12 of BS 7533:101:2003. Laid on 40mm laying course of Type 35 proprietary bedding mortar in accordance with Table 9 of BS7533:101:2021. A binding mortar should be applied to the concrete base and the underside of the paving units. 125mm concrete base should be pavement quality concrete conforming to BS EN 13877-1:2013 with a minimum strength class of C20/25.

Block paving

Unbound construction to BS7533-101 Traffic Category 5 – Pedestrian areas subjected to occasional overrun of commercial vehicles. Car parks receiving occasional commercial vehicular traffic. ≥0.5msa

Surface course: Tobemore Artro Concrete Paving Block 55 x 220 x 80mm

Colours: Random mixture of Platinum (35%), Steel (35%), Slate (30%)

Jointing: Silver granite/ sand – 2mm joint

Laying course: 30mm sand laying course – Class II laid in accordance with BS7533 part 3 2005 + A1:2009.

Base course: 70mm AC20 Bituminous – also refer to structural engineers' specification.

Bituminous base to be AC 20 dense bin 100/150 conforming to BS EN 13108-1. To manage moisture in the pavement, core 50mm dia. Drain holes on a 750mm orthogonal grid at low points and fill with 6mm clean grit. Drian hole to be covered with geotextile material extending min 250mm either side.

Subbase: 250mm MOT Type 1 granular material in accordance with clause 803 of the SHW and BS EN 7533:101:2021 – also refer to structural engineers' specification.

Minimum CBR 2% – also refer to structural engineers' specification.

Kerbs

Kerb: Marshalls 63 x 150 x 915mm Conservation X Edging

Colour: Silver Grey

Laid vertically (63mm face facing upwards) and set in concrete haunch with haunch to minimum one third of height. Minimal joints.

Kerb to top of steps: Marshalls 255 x 205 x 915mm Conservation X Kerb

Colour: Silver Grey

Laid vertically (205mm face facing upwards) and set in concrete haunch with haunch to minimum one third of height. Minimal joints.

Tactile Paving

Unbound construction

Marshalls Tactile Hazard Warning Textured 400 x 400 x 50mm Charcoal or Tactile Hazard Warning 400 x 400 x 50mm, Natural.

Jointing: Silver granite/ sand – 2mm joint generally up to 5mm max

Laying course: 30mm sand laying course – Class II laid in accordance with BS7533 part 3 2005 + A1:2009.

Base course: 80mm AC20 Bituminous – also refer to structural engineers' specification.

Bituminous base to be AC 20 dense bin 100/150 conforming to BS EN 13108-1.

Subbase: 250mm MOT Type 1 granular material in accordance with clause 803 of the SHW and BS EN 7533:101:2021 – also refer to structural engineers' specification.

Minimum CBR 2% – also refer to structural engineers' specification.

Alternative paving to Marshalls paving for tender price:

Tobemore Tactile Hazard Warning Flags, 400 x 400 x 50mm. Joints should be between 6mm and 10mm and filled with either Type 25 or Type 40 mortar in accordance with Table 12 of BS 7533:101:2003. Laid on 40mm laying course of Type 35 proprietary bedding mortar in accordance with Table 9 of BS7533:101:2021. A binding mortar should be applied to the concrete base and the underside of the paving units. 125mm concrete base should be pavement quality concrete conforming to BS EN 13877-1:2013 with a minimum strength class of C20/25.

Steps

Conservation X Textured Step 400x150x1000mm Silver Grey with standard black visibility strip.

Refer to Structural Engineer's specification for concrete step construction.

Alternative steps: Mayfair Step Flags Sizes Depths 400 x 400mm 50mm with contrasting nosing and Mayfair flay risers.

Slot drainage

Marshalls Drexus Slot Drain – Duo Slot Drain

0/0 Channel

Duo Slot Top

2no access covers for maintenance.

End cap 0/0 for highest end. Cap outlet 0/0 for outlet.

Laid in accordance with manufacturer's instructions with loading class D400 – min C25/30 concrete bedding and haunch.

Mortar bed should be laid beneath 1st course of block paving and paving slab. Mortar must extend beneath entire length or width of 1st course.

Or similar approved in stainless steel or galvanized finish.

Allow for work to create outlet connection to existing gulley in position of existing slot drain on site (to be removed)

Gulley cover

450 x 450 x 100mm Ductile Iron Grate & Frame D400 to replace existing gulley cover. To be set within new paving with no cuts to paving. Allow for new on site concrete bedding and support to cover.

Service bollards

1 no Zenith Service Bollard by Furnitubes, stainless steel, root fixed – stainless steel with suitable concrete base for fixing.

To be replacement for existing service bollard with 2 no 110 volt sockets. New position circa 1500 from original position so allow for extension of cabling and armored ducting below ground level.

Handrail

2 no new handrails and supporting uprights to either side of new steps.

Handrail formed in 50 x 15 flat bar steel with black paint finish.

Support uprights in 50 x 50 SHS steels welded to handrail and fixed in suitable concrete footing below finished step level. With black paint finish.

Refer to separate Steps and Handrail drawings.

Fixed furniture

Currently on site there are sets of seating and tables for public use. These are constructed in gabion baskets with stone infill forming support for bench seats and tabletops in timber. The bases of these items are anchored into concrete pads poured level with the existing paving.

These items are to be carefully removed to allow for re-use on the site. Contractor to safely transport items to the Old Bolsover Town Council Depot on Penny Lane S44 6NG. Allow to return items to site as well prior to reinstallation.

Refer to existing layout and demolition layout for position of existing items. These are:

4 no benches

4 no “picnic benches" made up of one table and two separate benches.

4 no tall “bar” tables.

Refer to external furniture layout drawing for the re-use of these items. Items to be carefully anchored in suitable concrete footings below paving level – paving to run under items.

- Bar table: 1m x 1m x 0.2m deep base, though actual base depth is to suit fixing requirements.
- Bench: 2m x 0.6m x 0.15m deep base, though actual base depth is to suit fixing requirements.
- Picnic table: TBC

Concrete for the bases is to be FND2 concrete reinforced with A252 Mesh at the bottom with minimum 50mm cover. Our recommendations for the sub-base for the foundations is the same as that of the block paved construction, i.e. 250mm Type 1 Granular Material.

Where concrete is encountered at shallow depths below the proposed location of the bar table or benches, depending on the extents and condition of the concrete slab, the furniture may be fixed directly to the existing slab as it as noted to be between 280-390mm thick.

Condition of existing base fixings to be recorded and shown to Architect so any works to add new base fixings can be designed and agreed.

Figure 13 Typical bench currently on site

Figure 14 Typical picnic benches on site

Figure 15 Typical bar table currently on site

thread architects
Sheffield & Solihull

The Town Square, Bolsover

APPENDIX 1

HSE Guidance on site protection on construction sites where members of the public may have access.

Sheffield - 0114 276 2865
www.threadarchitects.co.uk
Thread Architects Limited
Site Gallery, 1 Brown Street, Sheffield, S1 2BS
Company Number: 8597848
Solihull - 07975 578 578

HSE Guidance on site protection on construction sites where members of the public may have access.
Hyper-Links left active.

Protecting the public

What you need to do

The law says you must conduct your business without putting members of the public at risk. This includes the public and other workers who may be affected by your work.

The project client should provide information about:

- boundaries
- adjacent land usage
- access; and
- measures to exclude unauthorized persons.

This will influence the measures contractors take.

Key issues are:

- Managing site access
- Hazards causing risk to the public
- Vulnerable groups

What you need to know

All construction sites require:

- Measures to manage access across defined boundaries; and
- Steps to exclude unauthorised people.

While the numbers of children being killed or injured on construction sites has reduced, there is no room for complacency. Each year, two or three children die after gaining access to building sites, and many more are injured.

Other members of the public are seriously injured by:

- Materials or tools falling outside the site boundary.
- Falling into trenches; or
- Being struck by moving plant and vehicles.

The client's pre-construction information should include:

- project boundaries.
- adjacent land use.
- access; and
- measures to exclude unauthorised people.

Managing site access

HSE Guidance on site protection on construction sites where members of the public may have access.
Hyper-Links left active.

Site boundaries: You need to define boundaries physically, where necessary, by suitable fencing. The type of fencing should reflect the nature of the site and its surroundings.

Determining the boundary is an important aspect of managing public risk. You need to:

- **plan** what form the perimeter will take.
- **provide** the fencing; and
- **maintain** the fencing.

Questions you need to ask yourself include:

- What is the nature and type of the construction work?
- How heavily populated is the area is?
- Who will need to visit the site during the work?
- Will the site attract children?
- What are the site characteristics (e.g., existing site boundaries, location, proximity to other buildings).

Typically, in populated areas, this will mean a two-metre-high small mesh fence or hoarding around the site.

Authorisation: The principal contractor must take reasonable steps to prevent unauthorised people accessing the site.

- People may be authorised to access the entire site or be restricted to certain areas.
- You must explain relevant site rules to authorised people and undertake any necessary site induction.
- You may need to supervise or accompany some authorised visitors while they are on site or visiting specific areas.

Hazards causing risk to the public.

Many hazards have the potential to injure members of the public and visitors. Consider if they exist on your project and how you will manage them.

Falling objects - You must make sure objects cannot fall outside the site boundary. On scaffolds you can achieve this using toe-boards, brick guards and netting. You may also need fans and/or covered walkways.

Delivery and other site vehicles - Make sure pedestrians cannot be struck by vehicles entering or leaving the site. Obstructing the pavement during deliveries may force pedestrians into the road, where they can be struck by other vehicles.

Scaffolding and other access equipment - Prevent people outside the boundary being struck while they are erecting, dismantling, and using scaffolding and other access equipment.

Storing and stacking materials - You can reduce the risks associated with the storage of materials by storing materials within the site perimeter, preferably in secure compounds or away from the perimeter fencing.

HSE Guidance on site protection on construction sites where members of the public may have access.
Hyper-Links left active.

Openings and excavations - People can be injured if they fall into excavations, manholes, stairwells or from open floor edges. You will need to put up barriers or covers.

Other hazards include -

- slips, trips, and falls within pedestrian areas.
- plant, machinery, and equipment.
- hazardous substances.
- electricity and other energy sources.
- dust, noise, and vibration; and
- road works.

Vulnerable groups

The elderly, children and people with certain disabilities may need special attention. Work in premises such as schools and hospitals need careful thought and planning.

Some children are drawn to construction sites as exciting places to play. You must do everything you can to keep them out of the site and away from danger.

The following specific steps are particularly relevant to child safety:

- Secure sites adequately when finishing work for the day.
- Barrier off or cover over excavations and pits.
- Isolate and immobilise vehicles and plant and if possible, lock them in a compound.
- Store building materials (such as pipes, manhole rings, and cement bags) so that they cannot topple or roll over.
- Remove access ladders from excavations and scaffolds.
- Lock away hazardous substances.

Resources

- Protecting the public: your next move – HSG51
- Health and Safety at Work etc Act Section 3

thread architects
Sheffield & Solihull

The Town Square, Bolsover

APPENDIX 2

Manufacture's technical sheets for specified paving and alternative options (to be agreed)

Sheffield - 0114 276 2865
www.threadarchitects.co.uk
Thread Architects Limited
Site Gallery, 1 Brown Street, Sheffield, S1 2BS
Company Number: 8597848
Solihull - 07975 578 578

Marshalls
Creating Better Spaces

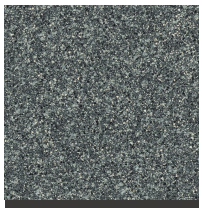
Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

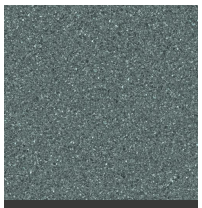
T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

Conservation X Smooth 450 x 450 x 70

Date Created: 15/04/21


Conservation X Smooth - Silver Grey


Conservation X Smooth - Charcoal


Conservation X Smooth - Blue Grey


Conservation X Smooth - Cream

*Natural products are manufactured from aggregates sourced locally to the works and contain no pigmentation, therefore colour variation between products from different works is possible.

Conservation X is a versatile paving collection that provides a wider choice of colours, sizes and textures to bring a modern and contemporary feel to spaces requiring greater design flexibility.

This range is known for its unique blend and mix of natural crystalline aggregates that are uniquely exposed to achieve a granite-look finish. Having a much lower carbon footprint than granite paving, Conservation X is manufactured in the UK to the best quality standard and contains up to 48% recycled material, making it both durable and sustainable.

Conservation X now comes in new sizes, including the popular linear format from our previous Celestia range, and an improved colour palette of Silver Grey and Charcoal and the new Blue Grey and Cream. Achieve your full-scheme design using a combination of both paving and block options and coordinating ancillary products, see the full Conservation X range here.

DESCRIPTION	
Appearance	Solid unit with smooth surface
Manufacturing Process	Hydraulically pressed concrete
Base Raw Material	Pigmented & unpigmented concrete utilising specially selected aggregates
Governing Manufacturing Standards	All data where relevant to be established in accordance with BS EN 1339 : 2003
Type	Solid unit with smooth surface
CE Marking/DOP	https://www.marshalls.co.uk/dop
NBS Specification	Q25 315,Q25 315

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

Conservation X Smooth 450 x 450 x 70

Date Created: 15/04/21

PHYSICAL PROPERTIES

Work Dimensions (mm)	448 x 448 x 70
Nominal Dimensions (mm)	450 x 450 x 70
Tolerances on Work Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance (mm)	≤ 23mm (Wide Wheel Abrasion Test)
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²
Material Density	2300 kg/m³ (typically)
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45.
Thermal Conductivity (K value)	Design data as defined to BS EN 13369 : 2013
Transverse/FlexuralSplit/Breaking	Characteristic bending strength of 5.0 MPa with no individual result less than 4.0 MPa

SPECIFICATION

Approx unit weight (kg)	34
Emission of Asbestos	No content
External Fire Performance	Deemed to satisfy when used for roofing
Reaction to fire	Class A1 when used for internal flooring
Materials Control	CE Marked to BS EN 1339 : 2003 Concrete Flags

SUSTAINABILITY

Breeam	These units can achieve an "A" rated system when used in conjunction with the correct sub-base components
Carbon Footprint	34 kg CO2 m²

APPLICATION

Suitability	Laid in accordance with BS7533-4 : 2006

SITE WORKS

Coverage (m2)	5.7

SUPPLY

Units Per Pack	28
Av. pack weight (kg)	940
Packaging	All packs are suitable for crane off-load

FURTHER INFORMATION

Cleaning & Maintenance	Available on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details. Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice
Contact Us	For technical information on the design, specification and construction when utilising the product, contact Group Technical Services on 0370 411 2233

Marshalls
Creating Better Spaces

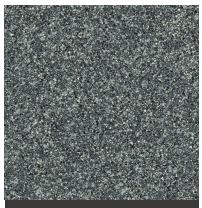
Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

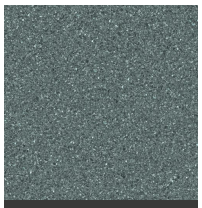
T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

Conservation X Smooth 400 x 400 x 50

Date Created: 13/04/21


Conservation X Smooth - Silver Grey


Conservation X Smooth - Charcoal


Conservation X Smooth - Blue Grey


Conservation X Smooth - Cream

*Natural products are manufactured from aggregates sourced locally to the works and contain no pigmentation, therefore colour variation between products from different works is possible.

Conservation X is a versatile paving collection that provides a wider choice of colours, sizes and textures to bring a modern and contemporary feel to spaces requiring greater design flexibility.

This range is known for its unique blend and mix of natural crystalline aggregates that are uniquely exposed to achieve a granite-look finish. Having a much lower carbon footprint than granite paving, Conservation X is manufactured in the UK to the best quality standard and contains up to 48% recycled material, making it both durable and sustainable.

Conservation X now comes in new sizes, including the popular linear format from our previous Celestia range, and an improved colour palette of Silver Grey and Charcoal and the new Blue Grey and Cream. Achieve your full-scheme design using a combination of both paving and block options and coordinating ancillary products, see the full Conservation X range here.

DESCRIPTION	
Appearance	Solid unit with smooth surface
Manufacturing Process	Hydraulically pressed concrete
Base Raw Material	Pigmented & unpigmented concrete utilising specially selected aggregates
Governing Manufacturing Standards	All data where relevant to be established in accordance with BS EN 1339 : 2003
Type	Solid unit with smooth surface
CE Marking/DOP	https://www.marshalls.co.uk/dop
NBS Specification	Q25 315,Q25 315

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

Conservation X Smooth 400 x 400 x 50

Date Created: 13/04/21

PHYSICAL PROPERTIES

Work Dimensions (mm)	398 x 398 x 50
Nominal Dimensions (mm)	400 x 400 x 50
Tolerances on Work Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance (mm)	≤ 23mm (Wide Wheel Abrasion Test)
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²
Material Density	2300 kg/m³ (typically)
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45.
Thermal Conductivity (K value)	Design data as defined to BS EN 13369 : 2013
Transverse/FlexuralSplit/Breaking	Characteristic bending strength of 5.0 MPa with no individual result less than 4.0 MPa

SPECIFICATION

Approx unit weight (kg)	18
Emission of Asbestos	No content
External Fire Performance	Deemed to satisfy when used for roofing
Reaction to fire	Class A1 when used for internal flooring
Materials Control	CE Marked to BS EN 1339 : 2003 Concrete Flags

SUSTAINABILITY

Breeam	These units can achieve an "A" rated system when used in conjunction with the correct sub-base components
Carbon Footprint	24 kg CO2 m²

APPLICATION

Suitability	Laid in accordance with BS7533-4 : 2006

SITE WORKS

Coverage (m2)	8.1

SUPPLY

Units Per Pack	40
Av. pack weight (kg)	736
Packaging	All packs are suitable for crane off-load

FURTHER INFORMATION

Cleaning & Maintenance	Available on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details. Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice
Contact Us	For technical information on the design, specification and construction when utilising the product, contact Group Technical Services on 0370 411 2233

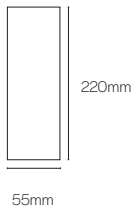
SCAN HERE

Artro

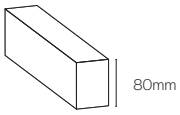
The concrete alternative to Clay Pavers.

With creativity at its core, Artro's strength lies in its ability to adapt to any application. Artro is a new trafficable paving range providing the option of vehicular access in commercial, public realm or residential projects. Inspired by the intimate scale of traditional European clay pavers, Artro brings the concept right up to date, providing inspirational options for landscape designers.

- Small linear paving blocks
- Superb hard-wearing smooth surface
- Vibrant long-lasting colours
- Choose from cool contemporary greys or warm traditional tones



Size



Depth

PrimeTop® Ef-Stop®

S
Smooth

Finish

Pedestrian Use | Light Traffic | Commercial Traffic

Refer to relevant guidance in BS 7533

Artro

Specification

PrimeTop® Ef-Stop®

Product type	Concrete Paving Block
Manufactured to	BS EN 1338:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >350kgs/m^3 cement
Surface Finish	Smooth
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	Typical tensile splitting strength of >3.6MPa
Slip/Skid risk	Extremely Low
Installed to (flexibly)	BS7533-3-2005
NSS	**Plus** Q24 110 **Create** 45-20-64/400
Tolerances on Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance	Class 3
Durability (Freeze-thaw)	Class 3
External Fire Performance	Deemed to satisfy. See Commission Decision 2000/553/EC
Reaction to fire	Class A1
Applications	Refer to the relevant part of BS7533 for the correct sub-base design. Available from www.bsigroup.com
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 12%
Carbon Footprint	20.22kgCo^2e/m^2
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
breeam rating www.bre.co.uk	BREEAM – 'B' according to the Green Guide to Specification, 4th Edition 2009. 'A', can be achieved when used in conjunction with a prepared recycled sub-base.

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

Artro

Stock

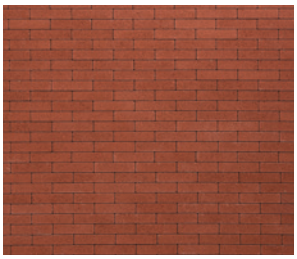
product	size (mm)	colours available	in stock	m² per pack	m² per slice	no. per m²	no. per pack	weight kg per pack GB	weight kg per pack NI/ROI
Artro	220x55x80	Platinum, Steel, Carbon, Autumn, Heather, Bracken, Slate	YES	6.776	0.847	82.64	560	1266	1266

Platinum

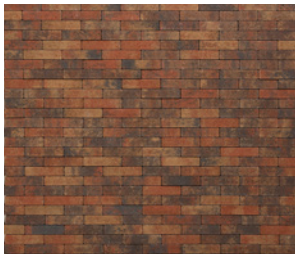
Steel

Carbon

Autumn



Heather



Bracken

Slate

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

Design

Unit Size (mm): 220x55
Laying Pattern: Stretcher
Jointing Material: Silver Granite
Angle: 0
Depth (mm): 80

Products Used

Product: Artro
Colour: Platinum
Size: 220x55
Finish: Smooth
Blend: 35%

Product: Artro
Colour: Slate
Size: 220x55
Finish: Smooth
Blend: 30%

Product: Artro
Colour: Steel
Size: 220x55
Finish: Smooth
Blend: 35%

Contact Us

GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email

technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

Marshalls
Creating Better Spaces

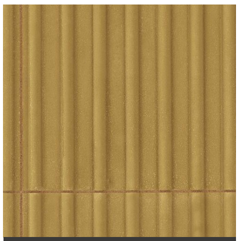
Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 0333 000 20 50
www.marshalls.co.uk/commercial

T: 01422 312000
F: 01422 312943
E: services.advisory@marshalls.co.uk

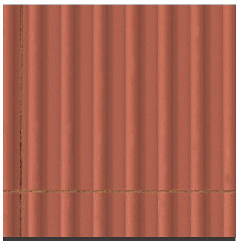
Hazard Warning 400 x 400 x 50

Date Created: 03/08/18

Hazard Warning Tactile Standard - Natural



Hazard Warning Tactile Standard - Buff



Hazard Warning Tactile Standard - Red

Hazard Warning Tactile Standard - Dark Grey

Designed to warn users of potential hazards in the immediate vicinity and to proceed with caution, Hazard Warning Tactile Flag Paving features a raised striped pattern which runs across its surface.

Also referred to as Corduroy paving, this product should be used in accordance with The Disabled Persons Act 1981 and DDA 2004. Hazard Warning Tactile Flag Paving is for use at the top and bottom of steps, level crossings and intersections of shared cycle/pedestrian routes. It should be installed at 90 degrees and 400mm from any potential hazards.

This product is available in a range of colour options – Red, Buff, Natural and Charcoal. Buff and Natural are also available as textured paving. Two different plan sizes feature in the range, 400 x 400mm and 450 x 450mm.

DESCRIPTION	
Appearance	Solid unit with profiled surface
Manufacturing Process	Hydraulically pressed concrete
Base Raw Material	Concrete
Governing Manufacturing Standards	All data where relevant manufactured, but not in compliance, to BS EN 1339 : 2003, as the tactility of paving is excluded from the Scope
CE Marking/DOP	https://www.marshalls.co.uk/dop
NBS Specification	Q25 320

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 0333 000 20 50
www.marshalls.co.uk/commercial

T: 01422 312000
F: 01422 312943
E: services.advisory@marshalls.co.uk

Hazard Warning 400 x 400 x 50

Date Created: 03/08/18

PHYSICAL PROPERTIES

Tolerances	Minimum (mm)	Maximum (mm)
Length	396	400
Width	396	400
Thickness	47	53
Work Dimensions (mm)	398 x 398 x 50	
Nominal Dimensions (mm)	400 x 400 x 50	
Tolerances on Work Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm	
Abrasion Resistance (mm)	≤ 23mm (Wide Wheel Abrasion Test)	
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²	
Material Density	2300 kg/m³ (typically)	
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45	
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45.	
Thermal Conductivity (K value)	Design data as defined to BS EN 13369 : 2013	
Transverse/FlexuralSplit/Breaking	Characteristic bending strength of 4.0 MPa with no individual result less than 3.2 MPa	

SPECIFICATION

Approx unit weight (kg)	19
Emission of Asbestos	No content
External Fire Performance	Deemed to satisfy. See commission decision 2000/553/ECU
Reaction to fire	Class A1, see commisson decision 2000/605/EC

SUSTAINABILITY

Breeam	These units can achieve an "A" rated system when used in conjunction with the correct sub-base components
Carbon Footprint	13 kg CO2 m²

APPLICATION

Suitability	Laid in accordance with BS 7533-4 : 2006

SITE WORKS

Coverage	6.25 no per m2

SUPPLY

Av. pack size (m²)	5.8
Units Per Pack	36
Av. pack weight (kg)	684
Packaging	All packs are suitable for crane off-load. Fork lift off-load on request

FURTHER INFORMATION

Cleaning & Maintenance	Information regarding the cleaning & maintenance of this product may be obtained on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details. Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice
Contact Us	For technical information on the design, specification and construction when utilising the product, contact the Technical Advisory Services Department on 0370 411 2233

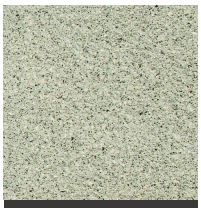
Marshalls
Creating Better Spaces

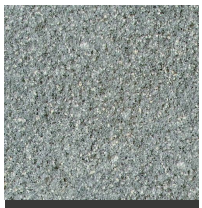
Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

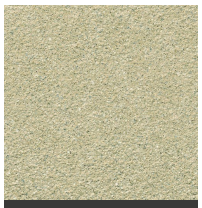
T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

63 x 150 x 915 Conservation X Edging

Date Created: 13/04/21


Conservation X Kerb - Silver Grey


Conservation X Kerb - Charcoal


Conservation X Kerb - Cream

*Natural products are manufactured from aggregates sourced locally to the works and contain no pigmentation, therefore colour variation between products from different works is possible.

For a striking and modern kerb system, the **Conservation X Kerb** offers a slightly wider profile than a standard kerb, delivering modern design aesthetics in any application.

Marshalls' **Conservation X Kerb** is high in strength and precision-manufactured before going through a unique secondary texturing process, helping it achieve a granite-look finish. This product is manufactured in the UK with up to 48% recycled material content.

The beauty of our **Conservation X Kerb** is the wide range of supporting ancillaries, making it an all encompassing kerb system solution. It can be used in a whole host of projects, including pavements, pedestrian areas within busy urban spaces, car parks and much more.

Available in Charcoal, Silver Grey and our new Cream colour, these kerbs complement the Conservation X Block and Paving ranges perfectly. You can view our full Conservation X range here.

DESCRIPTION	
Appearance	Solid unit with textured surface
Manufacturing Process	Hydraulically pressed concrete
Base Raw Material	Concrete
Governing Manufacturing Standards	All data where relevant to be established in accordance with BS EN 1340 : 2003
Type	Solid unit with textured surface
CE Marking/DOP	https://www.marshalls.co.uk/dop
NBS Specification	Q10 112,Q10 10,Q10 510

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

63 x 150 x 915 Conservation X Edging

Date Created: 13/04/21

PHYSICAL PROPERTIES

Work Dimensions (mm)	63 x 150 x 915
Nominal Dimensions (mm)	63 x 150 x 915
Tolerances on Work Dimensions (mm)	Width ±3mm, height ±3mm, length ±3mm
Abrasion Resistance (mm)	≤ 23mm (Wide Wheel Abrasion Test)
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²
Material Density	2300 kg/m³ (typically)
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45.
Thermal Conductivity (K value)	Design data as defined to BS EN 13369 : 2013
Transverse/FlexuralSplit/Breaking	Characteristic bending strength of 3.5 MPa with no individual result less than 2.8 MPa

SPECIFICATION

Approx unit weight (kg)	17
Emission of Asbestos	No content
External Fire Performance	Deemed to satisfy when used for roofing
Reaction to fire	Class A1 when used for internal flooring
Materials Control	CE Marked to BS EN 1340 : 2003 Concrete Kerbs

SUSTAINABILITY

Carbon Footprint	4 kg CO2 lin m

APPLICATION

Suitability	Laid in accordance with BS7533-6 : 2006

SUPPLY

Units Per Pack	64

FURTHER INFORMATION

Cleaning & Maintenance	Available on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details. Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice
Contact Us	For technical information on the design, specification and construction when utilising the product, contact Group Technical Services on 0370 411 2233

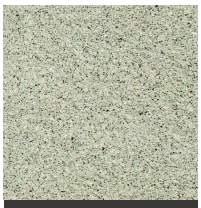
Marshalls
Creating Better Spaces

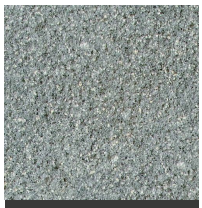
Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

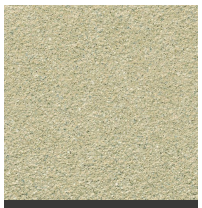
T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

255 x 205 x 915 Conservation X Kerb

Date Created: 13/04/21


Conservation X Kerb - Silver Grey


Conservation X Kerb - Charcoal


Conservation X Kerb - Cream

*Natural products are manufactured from aggregates sourced locally to the works and contain no pigmentation, therefore colour variation between products from different works is possible.

For a striking and modern kerb system, the **Conservation X Kerb** offers a slightly wider profile than a standard kerb, delivering modern design aesthetics in any application.

Marshalls' **Conservation X Kerb** is high in strength and precision-manufactured before going through a unique secondary texturing process, helping it achieve a granite-look finish. This product is manufactured in the UK with up to 48% recycled material content.

The beauty of our **Conservation X Kerb** is the wide range of supporting ancillaries, making it an all encompassing kerb system solution. It can be used in a whole host of projects, including pavements, pedestrian areas within busy urban spaces, car parks and much more.

Available in Charcoal, Silver Grey and our new Cream colour, these kerbs complement the Conservation X Block and Paving ranges perfectly. You can view our full Conservation X range here.

DESCRIPTION	
Appearance	Solid unit with textured surface
Manufacturing Process	Hydraulically pressed concrete
Base Raw Material	Concrete
Governing Manufacturing Standards	All data where relevant to be established in accordance with BS EN 1340 : 2003
Type	Solid unit with textured surface
CE Marking/DOP	https://www.marshalls.co.uk/dop
NBS Specification	Q10 112,Q10 10,Q10 510

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland HX5 9HT
Tel: 03704 11 22 33

T: 01422 312000
F: 01422 312943
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial

255 x 205 x 915 Conservation X Kerb

Date Created: 13/04/21

PHYSICAL PROPERTIES

Work Dimensions (mm)	255 x 205 x 915
Nominal Dimensions (mm)	255 x 205 x 915
Tolerances on Work Dimensions (mm)	Width ±3mm, height ±3mm, length ±3mm
Abrasion Resistance (mm)	≤ 23mm (Wide Wheel Abrasion Test)
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²
Material Density	2300 kg/m³ (typically)
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45.
Thermal Conductivity (K value)	Design data as defined to BS EN 13369 : 2013
Transverse/FlexuralSplit/Breaking	Characteristic bending strength of 3.5 MPa with no individual result less than 2.8 MPa

SPECIFICATION

Approx unit weight (kg)	96
Emission of Asbestos	No content
External Fire Performance	Deemed to satisfy when used for roofing
Reaction to fire	Class A1 when used for internal flooring
Materials Control	CE Marked to BS EN 1340 : 2003 Concrete Kerbs

SUSTAINABILITY

Carbon Footprint	22 kg CO2 lin m

APPLICATION

Suitability	Laid in accordance with BS7533-6 : 2006

SUPPLY

Units Per Pack	10

FURTHER INFORMATION

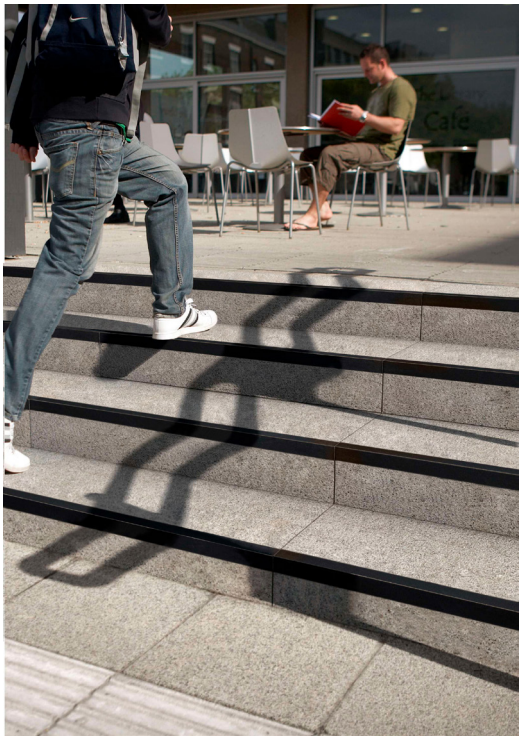
Cleaning & Maintenance	Available on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details. Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice
Contact Us	For technical information on the design, specification and construction when utilising the product, contact Group Technical Services on 0370 411 2233

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland, HX5 9HT
Tel: 03704 112233

T: 01422 312000
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial
Date Created: 08/09/23

Conservation X Textured Step 400 x 150 x 1000




Silver Grey


Charcoal

Marshalls' Single Solid Concrete Step Units are manufactured in concrete with lightly textured granite aggregates, making them a durable and attractive option for any urban environment. The step units come equipped with 55mm wide visibility strips on the edge of the nosing of the units and extend the full width of the tread. These standard strip colours meet the BS 8300 light reflectance values (LRV) standards*. Available in 2 colours, the product serves as a versatile complementary step unit to use with numerous paving and block paving ranges. The product is also offered in 2 different plan sizes. Single Solid Concrete Step Unit products are also DDA compliant. *Please note the LRV testing equipment is very sensitive and can vary between batches/factories

DESCRIPTION	
Base Raw Material	Concrete
Governing Manufacturing Standards	All data where relevant to be established in accordance with BS EN 1339 : 2003
UKCA Marking/DOP	UKCA Exempt
NBS Specification	Q25 315
Standard Visibility Strip	Gradus-rubber composite material with hard wearing slip-resistant finish

ISO 9001 Quality Management · ISO 14001 Environmental Management · ISO 45001 Occupational Health and Safety Management · BES 6001 Responsible Sourcing · 100% Renewable Energy · Made in Britain · 100% Recyclable

Marshalls
Creating Better Spaces

Landscape House, Premier Way,
Lowfields Business Park,
Elland, HX5 9HT
Tel: 03704 112233

T: 01422 312000
E: grouptechnicalservices@marshalls.co.uk
W: www.marshalls.co.uk/commercial
Date Created: 08/09/23

Conservation X Textured Step 400 x 150 x 1000

PHYSICAL PROPERTIES	
Work Dimensions (mm)	398 x 148 x 1000
Nominal Dimensions (mm)	400 x 150 x 1000
Tolerances on Work Dimensions (mm)	Class 2 tolerances to all dimensions as standard,Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance (mm)	≤23mm (Wide Wheel Abrasion Test)
Durability (Freeze-thaw)	≤ 1.0 kg/m² as a mean with no individual value > 1.5 kg/m²
Material Density	2300 kg/m³ (typically)
Slip/Skid Resistance (polished)	Mean polished skid resistance value (PSRV) : > 45
Slip/Skid Resistance (unpolished)	Mean unpolished skid resistance value (USRV) : > 45
Thermal Conductivity (K value)	Design data as defined to BE EN 13369:2013
Bending Strength MPa	Characteristic bending strength of 4.0 MPa with no individual result less than 3.2 MPa

SPECIFICATION	
Approx unit weight (kg)	144
Emission of Asbestos	No Content
External Fire Performance	Deemed to satisfy. See commision decision 2000/553/ECU
Reaction to fire	Class A1, see commision decision 2000/605/EC

SUSTAINABILITY	
Breeam	These units can achieve an “A” rated system when used in conjunction with the correct sub-base components
Carbon Footprint	0

SUPPLY	
Packaging	All packs are suitable for crane off-load. Fork lift off-load on request

FURTHER INFORMATION	
Cleaning & Maintenance	Cleaning & maintenance details are available on request
Efflorescence	Any product containing cement during its early life may exhibit a temporary white discolouration known as efflorescence. This is not a product fault and will gradually disappear with exposure to natural weathering and trafficking
Weathering	It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
Product Evolution	Marshalls reserve the right to amend the technical information as deemed necessary and in accordance with the relevant national and international standards without notice. The evolution of new product design is continuous and information is subject to change without notice. Customers should check with the supplier to ensure that they have the latest details
Contact Us	For technical information on the design, specification and construction when utilising the product, contact Group Technical Services on 0370 411 2233

Mayfair Flags

SCAN HERE

Granite aggregate paving slabs.

Mayfair flags have a sophisticated, modern feel. Manufactured with natural granite aggregates, Mayfair flags have a hard-wearing, durable surface and come in three natural colours.

- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look

PrimeTop® Ef-Stop® EasyClean

Finish	Also available as	Refer to relevant guidance in BS 7533			
TGA Textured Granite Aggregate	Steps	Pedestrian Use	Light Traffic	Commercial Traffic	BIM Level 2

600 x 600mm

600 x 400mm

450 x 450mm

400 x 400mm

Sizes

50mm
40mm
35mm

Depths

Mayfair Flags

Specification

PrimeTop® Ef-Stop®

Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m^3 cement
Granite content	Not less than 57% of granite aggregate in surface layer for Silver and Graphite; Not less than 46% of granite aggregate in surface layer for Sandstone
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	**Less than 50mm deep** Typical tensile splitting strength of >3.5MPa **50mm or greater** Typical tensile splitting strength of >5MPa (Class 3)
Slip/Skid risk	Extremely Low
Installed to	BS 7533-4:2006
ՈՖՏ	**Plus** Q25 315 **Create** 45-20-64/395
Tolerances on Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance	Class 3
Durability (Freeze-thaw)	Class 3
External Fire Performance	Deemed to satisfy. See Commission Decision 2000/553/EC
Reaction to fire	Class A1
Applications	Refer to the relevant part of BS 7533 for the correct sub-base design and the most suitable product size for your application. Available from www.bsigroup.com
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 6%
Carbon Footprint	**400x400x40mm** 10.43kgCo^2e/m^2 **450x400x35mm** 8.96kgCo^2e/m^2 **450x450x50mm** 12.51kgCo^2e/m^2 **600x400x50mm** 13.19kgCo^2e/m^2 **600x600x50mm** 12.54kgCo^2e/m^2
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
breeam rating www.**bre**.co.uk	**A**, according to the Green Guide to Specification, 4th Edition 2009. **A+**, can be achieved by using a recycled sub-base.

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

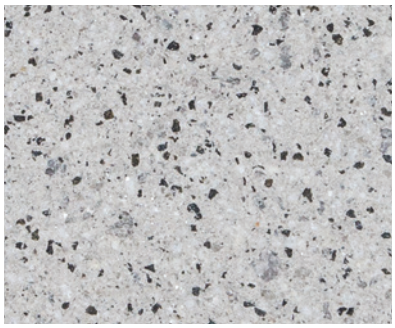
Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

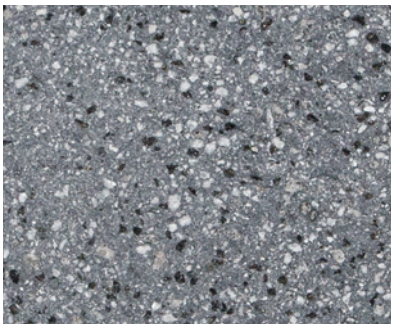
tobermore.co.uk

Mayfair Flags

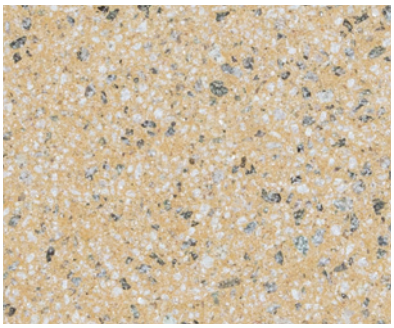
Silver



Graphite



Sandstone



Stock

product	size (mm)	edge	colours available	in stock	no. per m²	no. per pack	no. per pallet	weight kg per pack GB	weight kg per pack NI/ROI
Mayfair Flags BIM	600 x 600 x 50	Chamfered	Graphite, Sandstone, Silver	YES	2.78	20	20	859	851
	600 x 400 x 50	Chamfered	Graphite, Sandstone, Silver	YES	4.16	20	40	584	580
	450 x 450 x 50	Chamfered	Graphite, Sandstone, Silver	YES	4.94	20	80	466	466
	450 x 450 x 35	Chamfered	Graphite, Sandstone, Silver	YES	4.94	30	120	529	525
	400 x 400 x 40	Chamfered	Graphite, Sandstone, Silver	YES	6.25	25	100	384	382

BIM - This product is available to download from our website in BIM Level 2 format.

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

SCAN HERE

Tactile Flags

Aids the visually impaired & blind.

Tactile Flags are designed to assist pedestrians who are visually impaired or blind.

- Available in Blister, Hazard & Cycleway Warning finishes
- Superb hard-wearing surface
- Vibrant long-lasting colours

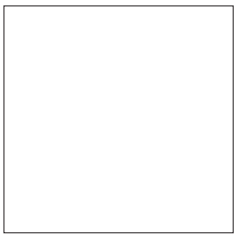
Ef-Stop®

B	HW	C
Blister	Hazard Warning	Cycleway

Finish

Pedestrian Use | Light

Refer to relevant guidance in BS 7533



400 x 400mm

Sizes

50mm

Depths

Tactile Flags

Specification

Ef-Stop®

Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m^3 cement
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	Typical tensile splitting strength of >5MPa (Class 3)
Slip/Skid risk	Mean polished skid resistance value PSRV >45 Mean unpolished skid resistance value USRV >45
Installed to	BS 7533-4:2006
NBS	**Plus** Q25 320 **Create** 45-20-64/425
Tolerances on Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance	Class 3
Durability (Freeze-thaw)	Class 3
External Fire Performance	Deemed to satisfy. See Commission Decision 2000/553/EC
Reaction to fire	Class A1
Applications	Refer to the relevant part of BS 7533 for the correct sub-base design for your application. Available from www.bsigroup.co
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 5%
Carbon Footprint	13.93kgCo2e/m^2
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
BREEAM rating www.**bre**.co.uk	**A**, according to the Green Guide to Specification, 4th Edition 2009. **A+**, can be achieved by using a recycled sub-base.

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Stock

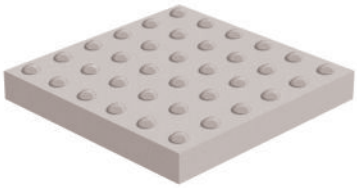
product	size (mm)	finish	edge	colours available	in stock	no. per m^2	no. per pack	no. per pallet	weight kg per pack GB	weight kg per pack NI/ROI
Tactile Flags	400 x 400 x 50	Blister	Square	Buff, Red and Natural	YES	6.25	20	80	393	391
	400 x 400 x 50	Hazard Warning	Square	Buff, Natural	YES	6.25	20	80	416	414
	400 x 400 x 50	Cycleway	Square	Buff, Natural	YES	6.25	20	80	416	414

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

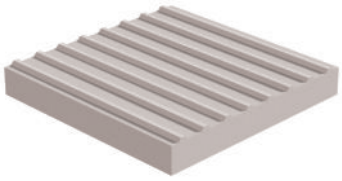
Tactile Flags



Blister

Blister flags enable the partially sighted and blind to distinguish between different types of crossing zones.

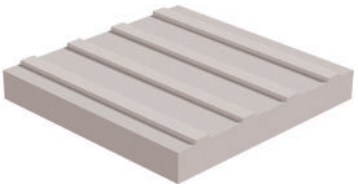
Red relates to controlled crossing zones, while Buff is available to distinguish uncontrolled crossing zones.



Hazard Warning

This pattern of half-rod shaped bars provides warning of a hazard which requires caution e.g. at the top and bottom of a flight of stairs.

It is recommended that the surface be in contrasting colour to the surrounding area so as to assist partially sighted people.



Cycleway

For installation on a track/footway where there is no physical barrier or level difference between the pedestrian and cyclist

Natural

Red

Buff

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

Mayfair Step Flags

with contrasting nosing

SCAN HERE

Granite effect step flags with contrasting nosing.

With a striking granite appearance and hard-wearing surface, Mayfair Step Flags are both stylish and functional.

- Vibrant granite appearance
- Manufactured with natural granite aggregates
- Superb hard-wearing granite surface
- Vibrant long-lasting colours
- Creates a striking, contemporary look
- Flags and risers

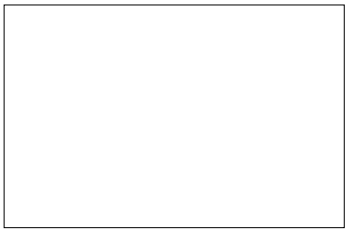
PrimeTop®

Ef-Stop®

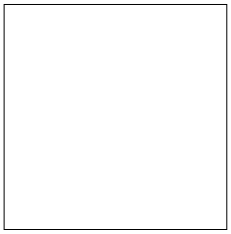
TGA
Textured
Granite Aggregate

Finish

Pedestrian
Use



600 x 400mm



400 x 400mm

Sizes

40mm
50mm

Depths

Mayfair Step Flags with contrasting nosing

Specification

PrimeTop® Ef-Stop®

Product type	Concrete Paving Flag
Manufactured to	BS EN 1339:2003
Surface Layer	Hard-wearing surface layer with a minimum of 4mm and >390kgs/m^3 cement
Granite Content	Not less than 57% of granite aggregate in surface layer for Silver.
Efflorescence	Minimum 12 hour vapour curing to significantly reduce the possibility of efflorescence
Strength	**Less than 50mm deep** Typical tensile splitting strength of >3.5MPa **50mm or greater** Typical tensile splitting strength of >5MPa (Class 3)
Slip/Skid risk	Extremely Low
Installed to	BS 7533-4:2006
NSS	**Plus** Q25 315 **Create** 45-20-64/395
Tolerances on Dimensions (mm)	Length ±2mm, width ±2mm, thickness ±3mm
Abrasion Resistance	Class 3
Durability (Freeze-thaw)	Class 3
External Fire Performance	Deemed to satisfy. See Commission Decision 2000/553/EC
Reaction to fire	Class A1
Applications	This product should be designed into projects using guidance from the Building Regulations, British Standards and any other relevant documents.
Energy used	100% renewable energy
Water used	100% from our rainwater harvesting system and groundwater bore hole
Recycled content	Not less than 6%
Carbon Footprint	**40mm** 16kgCo2e/m^2 **50mm** 19kgCo2e/m^2
Recyclable	100% of this product can be recycled
Manufacturing & Delivery	From one location within the UK
breeam rating www.**bre**.co.uk	**A**, according to the Green Guide to Specification, 4th Edition 2009. **A+**, can be achieved by using a recycled sub-base.

Tobermore products are manufactured in accordance with an accredited ISO 9001:2015 Quality Management. Manufacturing facilities are accredited to ISO14001:2015 Environmental Management. The company publish environmental labels and declarations in accordance with BES 6001.

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

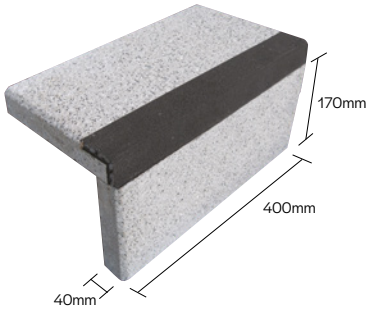
Mayfair Step Flags

Stock

product	size (mm)	finish	edge	colours available	in stock	no. per m²	no. per pack	no. per pallet	weight kg per pack GB	weight kg per pack NI/ROI
Mayfair Edge Step with contrasting nosing	600 x 400 x 50	Granite Textured	Chamfered	Silver Flag with Contrasting Nosing 55mm x 50mm	YES	4.16	20	40	589	584
	400 x 400 x 40			Silver Flag with Contrasting Nosing 55mm x 40mm	YES	6.25	25	100	403	401
Mayfair Corner Step with contrasting nosing	600 x 400 x 50	Granite Textured	Chamfered	Silver Flag with Contrasting Nosing 55mm x 50mm	YES	4.16	20	40	589	584
	400 x 400 x 40			Silver Flag with Contrasting Nosing 55mm x 40mm	YES	6.25	25	100	403	401
Mayfair Step Riser	400 x 170 x 40	Granite Textured	Chamfered	Silver	YES	-	25	100	195	192

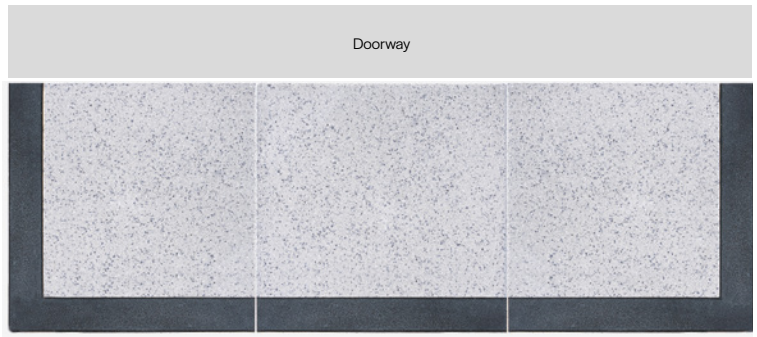
Important: Tobermore recommend that compliance is sought from Building Control prior to the installation of any of its step products.

Product Profile



Mayfair Step Riser Silver 400 x 170 x 40mm
Mayfair Step Flag with contrasting nosing
Note: risers may need to be cut to suit regulations

Step Example



Mayfair Corner Step 400 x 400 x 40mm with Contrasting Nosing | Mayfair Edge Step 400 x 400 x 40mm with Contrasting Nosing | Mayfair Corner Step 400 x 400 x 40mm with Contrasting Nosing

Contact Us
GB: 0844 800 5736
NI: 028 7964 2411
ROI: 048 7964 2411

Email
technical@tobermore.co.uk
sales@tobermore.co.uk

tobermore.co.uk

thread architects
Sheffield & Solihull

The Town Square, Bolsover

APPENDIX 3

Additional NBS Specification

Sheffield - 0114 276 2865
www.threadarchitects.co.uk
Thread Architects Limited
Site Gallery, 1 Brown Street, Sheffield, S1 2BS
Company Number: 8597848
Solihull - 07975 578 578

Thread Architects Ltd

Old Bolsover Town Council

Bolsover Town Square

NBS Specification of Works

17-11-2023

Contents

C20
Demolition

To be read with preliminaries/ general conditions.

10 Extent of deconstruction/ removal of existing paving and laying courses

1. General: Subject to retention requirements specified elsewhere, deconstruct/ demolish structures down to suitable level for new subbase utilizing existing as far as possible.

13 Groundworks

1. Old foundations, slabs and the like: Break out in locations and to the extents stated.
2. Contaminated material: Remove and dispose of contaminated material to appropriate site
3. Removal of deleterious material: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil

20 Features to be retained

1. General: Keep in place and protect the following: boundary walls, electrical cabinet and slab.

25 Location and marking of services

1. Services affected by deconstruction/ demolition work: Locate and mark positions

35 Live foul and surface water drains

1. Drains and associated manholes, inspection chambers, gullies, vent pipes and fittings: Protect and maintain normal flow during deconstruction or demolition Make good any damage arising from deconstruction or demolition work Leave clean and in working order at completion of deconstruction or demolition work

45 Services to be retained

1. Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction or demolition
2. Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner

50 Workmanship

1. Standard: Demolish structures in accordance with BS 6187.
2. Operatives
   - 2.1. Appropriately skilled and experienced for the type of work.
   - 2.2. Holding, or in training to obtain, relevant Construction Skills certification of competence.
3. Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction and demolition to be used.

55 Site hazards

1. Dust: Minimize airborne dust by periodically spraying deconstruction and demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris
2. Site operatives and general public: Protect from health hazards associated with vibration, dangerous fumes and dust arising during the course of the works.

60 Adjoining property

1. Temporary support and protection: Provide. Maintain and alter, as necessary, as work proceeds. Do not leave unnecessary or unstable projections.

2. Defects: Report immediately on discovery.
3. Damage: Minimize disturbance. Repair promptly to ensure safety, stability, weather protection and security.
4. Support to foundations: Do not disturb.

76 Asbestos-containing materials – unknown occurrences

1. Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction and demolition work. Avoid disturbing such materials.
2. Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

78 Unforeseen hazards

1. Discovery: Give notice immediately when hazards, such as unrecorded voids, tanks, chemicals, are discovered during deconstruction or demolition.
2. Removal: Submit details of proposed methods for filling, removal, etc.

85 Site condition at completion

1. Debris: Clear away and leave the site in a clean, tidy and secure condition.

86 Site surface at completion

1. Topography: As drawings

Ω End of Section

C41
Repairing/ renovating/ conserving masonry

Generally/ preparation

120 Site inspection

1. Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
2. Parties involved: Contract administrator Contractor's representative Structural engineer
3. Timing: At least 5 working days before starting each section of work
4. Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work

125 Removal of fittings/ fixtures

1. Items to be removed, and reinstated on completion of repair work: Existing fixed street furniture and waste bins
    1.1. Identification: Attach labels or otherwise mark items using durable, non-permanent means, to identify location and describe refixing instructions, where applicable.
    1.2. Treatment following removal: Check for damage and condition
    1.3. Storage: Protect against damage, and store until required.
        1.3.1. Storage location: Old Bolsover Town Council Depot - Penny Lane, Bolsover
    1.4. Reinstatement: Refit in original locations using original installation methods.
2. Items unsuitable or not required for reuse: Bollards
    2.1. Disposal: Submit proposals
3. Masonry fabric and surfaces: Do not damage during removal and replacement of fittings/ fixtures.

Workmanship generally

165 Structural stability

1. General: Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

170 Disturbance to retained masonry

1. Retained masonry in the vicinity of repair works: Disturb as little as possible.
2. Existing retained masonry: Do not cut or adjust to accommodate new or reused units.
3. Retained loose masonry units and those vulnerable to movement during repair works: Prop or wedge so as to be firmly and correctly positioned.

180 Workmanship

1. Skill and experience of site operatives: Appropriate for types of work on which they are employed.
    1.1. Documentary evidence: Submit on request.

185 Adverse weather

1. General: Do not use frozen materials or lay masonry units on frozen surfaces.
2. Air temperature: Do not bed masonry units or repoint:
    2.1. In cement gauged mortars when ambient air temperature is at or below 3°C and falling or unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.

2.2. In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.

2.3. In nonhydraulic lime:sand mortars in cold weather, unless approval is given.

3. Temperature of the work: Maintain above freezing until mortar has fully set.
4. Rain, snow and dew: Protect masonry by covering during precipitation, and at all times when work is not proceeding.
5. Hot conditions and drying winds: Prevent masonry from drying out rapidly.
6. New mortar damaged by frost: Rake out and replace.

190 Control samples

1. General: Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder: Stonework to former window openings. Pointing to existing walls.

Material/ production/ accessories

215 Material samples

1. Representative samples of designated materials: Submit before placing orders.

1.1. Designated materials: Stone for former window openings

2. Retention of samples: Unless instructed otherwise, retain samples on-site for reference. Protect from damage and contamination.

220 Recording profiles

1. Profiles: Take measurements from existing masonry units, as instructed, to allow accurate matching of replacements.
2. Recording in situ: If there are no suitable joints to allow use of inserts, seek instructions.
3. Drawings and templates: Prepare as necessary. Templates must be clearly and indelibly marked to identify use and location.

240 Stone

1. Standard: To BS EN 771-6
2. Supplier: Contractor's choice
3. Type: Limestone
4. Quality: Free from vents, cracks, fissures, discolouration, or other defects that may adversely affect strength, durability or appearance. Thoroughly seasoned, dressed and worked in accordance with shop drawings prepared by the supplier.
5. Finish: To match existing

245 Replacement stone units

1. Sizes and profiles: To match existing masonry. Maintain existing joint widths.
2. Sinkings for fixings, joggles and lifting devices: Accurately aligned and positioned in relation to existing masonry.

Dismantling/ rebuilding - Not Used

Replacements and insertions

330 Preparation for replacement masonry

1. Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.

2. Existing metal fixings, frame members, etc.: Report when exposed.
3. Redundant metal fixings: Remove.
4. Recesses: Remove projections and loose material; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.

340 Replacement of stone

1. Description: To existing gable wall former windows
2. Stone: Sandstone, as clause 240
3. Bedding depths: 150 mm
4. Mortar: As section Z21.
   4.1. Standard: BS EN 998-2
   4.2. Mix: 1:2 NHL 3.5 hydraulic lime:sand
   4.3. Sand source/ type: To match adjacent mortar
5. Joints: Flush
6. Other requirements: To match adjacent mortar

385 Laying replacement masonry units

1. Exposed faces of new material: Keep to agreed face lines.
2. Faces, angles and features: Align accurately. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
3. Joint surfaces: Dampen to control suction as necessary.
4. Laying units: On a full bed of mortar, all joints filled.
5. Exposed faces: Keep clear of mortar and grout.

Tooling/ dressing stone in situ - Not Used

Mortar repairs

510 Preparation for mortar repairs

1. Repair area: Scribe area of masonry to be removed using straight horizontal and vertical lines parallel to joints. Where repair area abuts joints, maintain existing joint widths and do not bridge joints.
2. Decayed masonry: Cut back carefully to a minimum depth of 20 mm to a sound background. Where the depth of removal exceeds 50 mm, seek instructions.
3. Precautions: Do not weaken masonry by removing excessive material. Do not damage adjacent masonry.
4. Top and vertical reveals of repair area: Undercut.

Crack repairs/ ties/ reinforcement - Not Used

Grouting rubble filled cores - Not Used

Pointing/ repointing

810 Preparation for repointing

1. Existing mortar: Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of 30mm.
   1.1. Loose or friable mortar: Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.
2. Raked joints: Remove dust and debris.

820 Pointing

1. Description: STONEWORK GENERALLY
2. Preparation of joints: Rake out existing mortar Carefully brush away loose mortar Dampen joints, as necessary, to control suction
3. Mortar: As section Z21.
   3.1. Standard: BS EN 998-2
   3.2. Mix: 1:2 XYZ Ltd NHL 3.5 hydraulic lime:sand
   3.3. Sand source/ type: Crushed stone fine pointing sand to approval
4. Joint profile/ finish: Recessed back from weathered arrises to retain original joint widths. Brushed finish, as clause 860

860 Brushed finish to joints

1. Timing: After initial mortar set has taken place remove laitance and excess fines by brushing, to give a coarse texture. Do not compact mortar.

Ω End of Section

Q10
Kerbs/ edgings/ channels/ paving accessories

To be read with preliminaries/ general conditions.

10 Precast concrete step units

1. Description: CONSERVATION KERBS
2. Manufacturer: Marshalls plc
   2.1. Contact details
      2.1.1. Address: Landscape House
      Lowfields Business Park
      Elland
      West Yorkshire
      HX5 9HT
      2.1.2. Telephone: +44 (0)330 0574472
      2.1.3. Web: www.marshalls.co.uk
      2.1.4. Email: info@marshalls.co.uk
   2.2. Product reference: Conservation X Single Solid Step Unit
3. Colour: Silver grey.
4. Finish
   4.1. Treads: Textured.
   4.2. Risers: Textured.
5. NominalSize: 400 x 150 x 1000 mm.
6. Tolerances on plan dimension and thickness (nominal): Length ±2 mm, width ±2 mm, thickness ±3 mm.
7. PhysicalPropertiesWeatheringResistance: ≤1.0 kg/m² as a mean with no individual value >1.5 kg/m² (freeze thaw durability).
8. PhysicalPropertiesSlipResistance: >45.
9. Bending strength: Characteristic bending strength of 4.0 MPa with no individual result less than 3.2 MPa (400 x 150 x 1000 mm).

10 Concrete kerbs Primary kerb

1. Manufacturer: Marshalls plc
   1.1. Contact details
      1.1.1. Address: Landscape House
      Lowfields Business Park
      Elland
      West Yorkshire
      HX5 9HT
      1.1.2. Telephone: +44 (0)330 0574472
      1.1.3. Web: www.marshalls.co.uk
      1.1.4. Email: info@marshalls.co.uk
   1.2. Product reference: Conservation X Kerb
2. Standard: To BS 7533-6:1999.
3. Physical properties
   3.1. Colour: Silver grey.
   3.2. Finish: Textured.

3.3. Dimensions: 63 x 150 x 915 mm.

3.4. Weathering resistance: ≤1.0 kg/m² as a mean with no individual value >1.5 kg/m² (freeze thaw durability).

3.5. Abrasion resistance: ≤23 mm (Wide Wheel Abrasion Test).

3.6. Bending strength: Characteristic bending strength of 3.5 MPa with no individual result less than 2.8 MPa

3.7. Unpolished Slip Resistance Value (USRV) (minimum): >45.

4. Special shapes: None

10 Concrete flags Primary paving slab

1. Manufacturer: Marshalls plc

1.1. Contact details

1.1.1. Address: Landscape House
Lowfields Business Park
Elland
West Yorkshire
HX5 9HT

1.1.2. Telephone: +44 (0)330 0574472

1.1.3. Web: www.marshalls.co.uk

1.1.4. Email: info@marshalls.co.uk

1.2. Product reference: Conservation X Paving (Smooth finish)

2. Standard: To BS EN 1339.

3. Physical properties

3.1. Colour: Silver Grey.

3.2. Finish: Smooth.

3.3. Dimensions and associated tolerances

3.3.1. Nominal sizes: 450 x 450 x 70 mm.

3.3.2. Tolerances on plan dimension and thickness (nominal): Length ±2 mm, width ±2 mm, thickness ±3 mm.

3.4. Weathering resistance: ≤1.0 kg/m² as a mean with no individual value >1.5 kg/m² (freeze thaw durability).

3.5. Abrasion resistance: ≤23 mm (Wide Wheel Abrasion Test).

3.6. Slip resistance: >45.

3.7. Skid resistance: >45.

10 Concrete kerbs Top of steps

1. Manufacturer: Marshalls plc

1.1. Contact details

1.1.1. Address: Landscape House
Lowfields Business Park
Elland
West Yorkshire
HX5 9HT

1.1.2. Telephone: +44 (0)330 0574472

1.1.3. Web: www.marshalls.co.uk

1.1.4. Email: info@marshalls.co.uk

1.2. Product reference: Conservation X Kerb

2. Standard: To BS 7533-6:1999.

3. Physical properties
    3.1. Colour: Silver grey.
    3.2. Finish: Textured.
    3.3. Dimensions: 255 x 205 x 915 mm.
    3.4. Weathering resistance: ≤1.0 kg/m² as a mean with no individual value >1.5 kg/m² (freeze thaw durability).
    3.5. Abrasion resistance: ≤23 mm (Wide Wheel Abrasion Test).
    3.6. Bending strength: Characteristic bending strength of 3.5 MPa with no individual result less than 2.8 MPa
    3.7. Unpolished Slip Resistance Value (USRV) (minimum): >45.
4. Special shapes: None

10 Concrete Paving Concrete tactile flags

1. Manufacturer: Tobermore
2. Contact details
    2.1. Address: 2 Lisnamuck Road
    Tobermore
    Co L'derry
    BT45 5QF
    2.2. Telephone: +44 (0)844 800 5736
    2.3. Web: www.tobermore.co.uk
    2.4. Email: NBSdataplatform@tobermore.co.uk
3. Product reference: Tactile Flag - Hazard Warning
4. Standard: To BS EN 1339.
5. Physical properties
    5.1. Colour: Natural.
    5.2. Profile
        5.2.1. Flag type: Blister.
        5.2.2. Arrises: Square.
    5.3. Dimensions and associated tolerances
        5.3.1. Nominal sizes: 400 x 400 x 50 mm.
    5.4. Recycled content (minimum): Not less than 5%.
6. Skid resistance: Extremely low (>75 USRV).
7. Slip resistance: Extremely low (>75 USRV).
8. BREEAM rating: A (A+ can be achieved when used with recycled sub-base).
9. SurfaceLayer: Hard-wearing surface layer with a minimum of 4 mm and >390 kg/m³ cement.
10. TensileStrength: >5 MPa (Class 3).

25 Concrete paving blocks To feature strips

1. Manufacturer: Tobermore
    1.1. Contact details
        1.1.1. Address: 2 Lisnamuck Road
        Tobermore
        Co L'derry
        BT45 5QF
        1.1.2. Telephone: +44 (0)844 800 5736
        1.1.3. Web: www.tobermore.co.uk

1.1.4. Email: NBSdataplatform@tobermore.co.uk

1.2. Product reference: Artro | Concrete Block Paving

2. Standard: To BS EN 1338.
3. Physical properties
   3.1. Colour: Slate (30%). Steel (35%). Platinum (35%).
   3.2. Finish: Prime top surface layer with a minimum depth of 4 mm and >350 kg/m³ of cement.
   3.3. Profile
      3.3.1. Paver type: Rectangular block paving.
   3.4. Dimensions and associated tolerances
      3.4.1. Nominal sizes: 220 x 52 x 80 mm.
   3.5. Slip resistance: Extremely low risk of slipping (>75 USRV).
   3.6. Recycled content (minimum): Not less than 10 % recycled content.
4. Strength: >3.6 MPa.
5. Efflorescence: Minimum 12 hour vapour curing to reduce significantly the possibility of efflorescence.

30 Drainage channels with gratings Type A

1. Manufacturer: Marshalls Civils & Drainage
   1.1. Contact details
      1.1.1. Address: Landscape House
      Lowfield Business Park
      Elland
      West Yorkshire
      United Kingdom
      HX5 9HT
      1.1.2. Telephone: +44 1179 814500
      1.1.3. Web: www.marshalls.co.uk/commercial/civils-and-drainage
      1.1.4. Email: salesemail@marshalls.co.uk
   1.2. Product reference: Drexus Slot Drain (DR5410150: 0/0 1000 No-rail Channel)
2. Standard: To BS EN 1433.
3. Certification: BSI Kitemark: ISO 14001; ISO 45001; ISO 9001.
4. Material: Concrete.
5. Slot body
   5.1. Material: Steel.
   5.2. Upstand height: 105 mm.
6. Load class (minimum): D400.
7. Channel unit dimensions
   7.1. Width (nominal): 160 mm.
   7.2. Overall depth: 254 mm.
   7.3. Length: 1000 mm.
8. Integral accessories: 2no access covers for maintenance.
9. Height: 170 mm.
10. Drain: Duo Slot Drain 1000 Top.
11. Apparent density: 2280 kg/m³.
12. Water absorption: Grade 2.
13. Reaction to fire: Class A1.

14. DischargeCrossSection: 7300—22300 mm².

40 Laying kerbs, edgings and channels

1. Standard: To BS 7533-6.
2. Cutting: Neat and accurate and without spalling. Form neat junctions.
    2.1. Long units' (450 mm and over) minimum length after cutting: 300 mm.
    2.2. Short units' minimum length after cutting: The lower of one third of their original length or 50 mm.
3. Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
4. Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

41 Concrete for foundations, races and haunching

1. Standard: To BS 8500-2.
2. Designated mix: Not less than GEN0 or Standard mix ST1.
3. Workability: Very low.

42 Cement mortar bedding

1. General: To section Z21.
2. Mix: (Portland cement:sand): 1:3.
    2.1. Portland cement: Class CEM I 42.5 to BS EN 197-1.
    2.2. Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
3. Bed thickness: 12-40 mm.

44 Drainage channel systems

1. Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
2. Silt and debris: Removed from entire system immediately before handover.
3. Washing and detritus: Safely disposed without discharging into sewers or watercourses.

45 Accuracy

1. Deviations (maximum)
    1.1. Level: ± 6 mm.
    1.2. Horizontal and vertical alignment: 3 mm in 3 m.

80 Regularity of paved surfaces

1. Maximum undulation of (non-tactile) paving surface: 3 mm.
    1.1. Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
2. Difference in level between adjacent units (maximum)
    2.1. Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
    2.2. Recessed, filled joints: 2 mm.
        2.2.1. Recess depth (maximum): 5 mm.
    2.3. Unfilled joints: 2 mm.
3. Sudden irregularities: Not permitted.

Ω End of Section

Z11
Purpose-made metalwork

Products

310 Materials generally

1. Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
2. Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
3. Fasteners: To appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

Fabrication

515 Fabrication generally

1. Contact between dissimilar metals in components: Avoid.
2. Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
   2.1. Moving parts: Free moving without binding.
3. Corner junctions of identical sections: Mitre.

520 Cold formed work

1. Profiles: Accurate, with straight arrises.

Finishing

745 Preparation for application of coatings

1. General: Complete fabrication, and drill fixing holes before applying coatings.
2. Paint, grease, flux, rust, burrs and sharp arrises: Remove.

Ω End of Section

Z21
Mortars

Cement gauged mortars - Not Used

Lime:sand mortars

310 Lime:sand mortar mixes

1. Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

320 Sand for lime:sand masonry mortars

1. Type: Sharp, well graded.
   1.1. Quality, sampling and testing: To BS EN 13139.
   1.2. Grading/ Source: As specified elsewhere in relevant mortar mix items.

370 Site prepared nonhydraulic lime:sand mortars

1. Mixing: Mix materials thoroughly by compressing, beating and chopping. Do not add water.
   1.1. Equipment: Roller pan mixer or submit proposals.
2. Maturation period before use (maximum): Seek instructions

380 Ready to use nonhydraulic lime:sand mortars

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Materials: Select from:
   2.1. Lime putty slaked directly from quicklime to BS EN 459-1 and mixed thoroughly with sand.
   2.2. Quicklime to BS EN 459-1 slaked directly with sand.
3. Maturation period before use (maximum): Seek instructions

390 Knocking up nonhydraulic lime:sand mortars

1. Knocking up before and during use: Achieve and maintain a workable consistency by compressing, beating and chopping. Do not add water.
   1.1. Equipment: Roller pan mixer or submit proposals.

400 Making hydraulic lime:sand mortars

1. Mixing hydrated hydraulic lime:sand: Follow the lime manufacturer's recommendations for each stage of the mix.
   1.1. Water quantity: Only sufficient to produce a workable mix.
2. Working time: Within limits recommended by the hydraulic lime manufacturer.

Ω End of Section

Specification created using NBS Chorus