

19/12/19 / RF-18-632, RFM-XX-00-SP-L-0001- S2-P04

Adair Street Hotel, Manchester

Landscape Hardworks Specification

Stage 4

Adair Street Hotel

RFM-XX-00-SP-L-0001-Landscape Hardworks Specification

Stage 4 Specification for External Landscape & Public
Realm

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Ss_30_14_02_71

Resin-bound aggregate light duty paving systems

Systems

Ss_30_14_02_71 Resin-bound aggregate light duty paving systems

1. **Description:** Permeable resin bound gravel with 100% natural stone aggregate to pedestrian areas.
2. **System manufacturer:** SureSet UK Ltd
32 Deverill Road Trading Estate, Sutton Veny, Warminster, Wiltshire, BA12 7BZ
Tel: 08006126501
Email: website@sureset.co.uk
3. **Subgrade improvement layer:** To engineer's specification.
4. **Geotextile below granular sub-base:** To manufacturer's recommendations.
5. **Granular sub-base:** To engineer's specification.
6. **Base course:** To engineer's specification.
7. **Surface course:** [Pr_35_31_05_71 Resin-bound mixed aggregate surfacings](#)
18mm to manufacturer's specification
8. **Edge restraints:** Required.
[Pr_35_90_22_52 Metal edgings](#)
9. **Samples required:** [Ss_30_14_02/310 Product samples](#)
10. **Execution:** [Ss_30_14_02/609 Laying acrylic and resin based surfaces generally;](#)
[Ss_30_14_02/655 Laying resin bound aggregate surfaces](#)

Products

Pr_35_31_05_71 Resin-bound mixed aggregate surfacings

1. **Description:** Resin bound mixed aggregate surfacing
2. **Manufacturer:** SureSet UK Ltd
32 Deverill Road Trading Estate, Sutton Veny, Warminster, Wiltshire, BA12 7BZ
Tel: 08006126501
Email: website@sureset.co.uk
3. **Aggregate**
 - 3.1. **Type:** 100% Natural gravel / crushed rock
 - 3.2. **Size (nominal):** 6 mm.
 - 3.3. **Colour:** Norwegian Bronze.
4. **Recycled content:** N/A
5. **Binder**
 - 5.1. **Type:** Polyurethane resin.
 - 5.2. **Colour:** Clear.
6. **Slip resistance – water wet (minimum):** 65

Pr_35_90_22_52 Metal edgings

Shared by: [Ss_30_75_45_45 Light duty kerb systems](#)

1. **Manufacturer:** Kinley

2. **Product reference:** AluExcel Aluminium Edge Restraint or similar approved
3. **Type:** AE100
4. **Variation:** R – Rigid 101023

5. **Finish:** M – Mill finish (silver)
6. **Fixings:** Spiral landscape stake
7. **Accessories:** 90° welded corners
8. **Execution:** Installed to manufacturer's details; staked into hardcore

Ss_30_14_02/310 Product samples

1. **Supplied by:** SureSet UK Ltd
32 Deverill Road Trading Estate, Sutton Veny, Warminster, Wiltshire, BA12 7BZ
Tel: 08006126501
Email: website@sureset.co.uk
2. **Submittals:** 6 mm Norwegian Bronze
3. **Purpose:** For use as a reference sample.
4. **Labelling:** Clearly label all submitted samples. State full details of composition of mix.
5. **Timing:** Before ordering for project.

Execution

Ss_30_14_02/609 Laying acrylic and resin based surfaces generally

1. **Adverse weather during laying of granular pavements**
 - 1.1. **Frozen materials:** Do not use.
 - 1.2. **Laying not permitted:** During freezing conditions. If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer. During periods of continuous or heavy rain or if there is standing water on the base.
2. **Preparation:** Remove loose material and rubbish.
3. **Method**
 - 3.1. **Setting out:** Start from an edge restraint.
 - 3.2. **Adjacent work:** Form neat junctions. Do not damage.
 - 3.3. **Channels, gullies, etc:** Keep clear. Prevent damage.

Ss_30_14_02/655 Laying resin bound aggregate surfaces

1. **Base course**
 - 1.1. **Thickness:** To engineer's specification; minimum 70mm
 - 1.2. **Consolidation:** Before application of surface course, allow surface to dry, then compact.
2. **Surface course thickness:** 18mm to manufacturer's specification
3. **Compaction to all layers:** By heavy roller or other appropriate means, adequate to resist subsidence or deformation of the completed roads/ pavings when in use. Do not crush chippings.
4. **Finishing:** Before trafficking, remove excess chippings.

Ω End of System

Ss_30_14_90_75 Small unit bound paving systems

Systems

Ss_30_14_90_75 Small unit bound paving systems

1. Description: Rigidly laid concrete block paving to layby
2. System performance: [Ss_30_14_90/251 Accessibility of unit pavements](#)
3. System manufacturer: Name: Hardscape Products Ltd
Web: www.hardscape.co.uk
Tel: +44 (0)1204 565500
4. Standard: To [BS 7533-10](#).
5. Granular sub-base: To engineer's specification.
6. Base course: To engineer's specification.
7. Laying course: [Pr_20_31_53_61 Paving laying course mortars](#)
8. Paving course
 - 8.1. Cement slurry: [Pr_20_31_53_62 Paving unit priming slurry mortars](#)
 - 8.2. Paving units: [Pr_25_93_60_17 Concrete paving blocks](#)
 - 8.3. Jointing: [Pr_20_31_53_60 Paving jointing mortars](#)
 - 8.4. Movement joints: [Pr_30_31_76_16 Construction joint sealants](#)
9. Samples required: [Ss_30_14_90/305 Product samples](#)
10. Execution:
11. System completion: [Ss_30_14_90/801 Protection of completed pavements](#); [Ss_30_14_90/805 Verification of performance](#)

System performance

Ss_30_14_90/251 Accessibility of unit pavements

Shared by: [Ss_30_14_90_85 Small unit unbound paving systems](#)

1. Inclusive design: Not applicable.
2. Finished surfaces on accessible areas: Free of irregularities capable of inflicting personal injury.

Products

Pr_20_31_53_60 Paving jointing mortars

1. Description: Jointing mortar to rigidly laid paving
2. Manufacturer: Steintec
3. Product reference: tufftop High Performance Jointing Mortar or similar approved
4. Mortar strength designation: 25 N/mm² Classification - BS 7533-10: 2010 5.6.2 - engineer to advise
5. Colour: Sample to be provided alongside paving to determine colour of mortar.

Pr_20_31_53_61 Paving laying course mortars

1. Description: Bedding mortar for rigidly laid concrete block paving
2. Manufacturer: Steintec
3. Product reference: tuffbed High Performance Bedding Mortar or similar approved
4. Mortar designation: Classification - BS 7533-7: 2010 C.2.1 and table C4 Type B compliant

5. **Adhesive strength designation:** 2 N/mm² with tuffbond brush applied to underside of paving elements and to surface of concrete base or structural slab

Pr_20_31_53_62 Paving unit priming slurry mortars

1. **Manufacturer:** Steintec
2. **Product reference:** tuffbond High Performance Bonding and Priming Mortar or similar approved
3. **Adhesive strength designation:** 2 N/mm² with tuffbond brush applied to underside of paving elements and to surface of concrete base or structural slab

Pr_25_93_60_17 Concrete paving blocks

Shared by: [Ss_30_14_90_85 Small unit unbound paving systems](#)

1. **Description:** Kellen Breccia Concrete Block Paving blocks and slabs or similar approved
Refer to drawings;
RFM-XX-00-DR-L-0001
RFM-XX-00-DR-L-8004
RFM-XX-00-DR-L-8008
2. **Manufacturer:** Name: Hardscape Products Ltd
Web: www.hardscape.co.uk
Tel: +44 (0)1204 565500
3. **Standard:** CE marked.
Hardscape practice the ethical transparency framework of the United Nations Guiding Principles for Business and Human Rights (UNGPs) – consult manufacturer for further information.
Manufactured in accordance with ISO 9001 and ISO 14001 production and environment quality management systems.
Certified to standards BS EN 1338, BS EN 1339 and BS EN 1340.
4. **Physical properties**
 - 4.1. **Colour:** Magma Mix
 - 4.2. **Finish:** As cast.
 - 4.3. **Profile**
 - 4.3.1. **Paver type:** Regular plan form.
 - 4.4. **Dimensions and associated tolerances**
 - 4.4.1. **Nominal sizes:** 100 x 300 x 80 mm thickness, 500 x 500 x 80 mm thickness, 150 x 300 x 80 mm thickness.
 - 4.4.2. **Tolerances on diagonals:** No diagonal cuts.
 - 4.5. **Declared Performance::** Products are offered in line with the requirements of Attestation Level 4 as designated under the Construction Products Regulations (2011) Annex V. Type testing, routine testing and Factory Production Control documents have been developed and issued for this series of products.
We Hereby declare that the products named above are in conformity with the essential requirements of the Construction Products Regulations and the ZA Annex within the following standard when installed in accordance with the manufacturers installation guidelines.
BS EN 1339:2003
 - 4.6. **Slip resistance:** NPD (textured surface) to Test Standard 5.3.5.1 / 5.3.5.2
 - 4.7. **Skid resistance:** NPD (textured surface) to Test Standard 5.3.5.1 / 5.3.5.2
 - 4.8. **Recycled content (minimum):** 75% to [BS EN ISO 14021](#).

Pr_30_31_76_16 Construction joint sealants

1. **Description:** Joint sealant for bound concrete paving

2. Manufacturer: Contractor to submit proposals.
3. Standard: To [BS EN ISO 11600](#).
4. Third party certification: To engineer's specification.
5. Material: Two part polysulfide.
6. Class: To engineer's specification.
7. Colour: Colour match surrounding paving as closely as possible, to be approved by Landscape Architect.
8. Fire resistance: Required. Submit relevant third party certified [BS 476-20](#) test results.
9. Execution: [Pr_30_31_76/630 Applying joint sealants](#); [Pr_30_31_76/620 Joint preparation for sealant application](#); [Pr_30_31_76/610 Suitability of joints for sealant application](#)

Ss_30_14_90/305 Product samples

Shared by: [Ss_30_14_90_85 Small unit unbound paving systems](#)

1. Manufacturer: Name: Hardscape Products Ltd
Web: www.hardscape.co.uk
Tel: +44 (0)1204 565500
2. Submittals: Paving sample boards of Kellen concrete block paving in patterns specified in drawing RFM-XX-00-DR-L-8004-Paving Details.
3. Purpose: For use as a reference sample.
4. Labelling: Clearly label all submitted samples.
5. Timing: Submit to landscape architect before placing orders.

Execution

Pr_30_31_76/610 Suitability of joints for sealant application

1. Joint dimensions: Within limits specified for the sealant.
2. Substrate quality: Surfaces regular, undamaged and stable.
3. Joints not fit to receive sealant: Submit proposals for rectification.

Pr_30_31_76/620 Joint preparation for sealant application

1. Surfaces to which sealant must adhere: Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
2. Cleaning: Use materials and methods recommended by sealant manufacturer.
3. Vulnerable surfaces adjacent to joints: Mask if required. Do not stain or smear with primer or sealant.

Pr_30_31_76/630 Applying joint sealants

1. Substrate: As recommended by sealant manufacturer.
2. Environmental conditions: Do not dry or raise temperature of joints by heating.
3. Sealant application: Completely and neatly fill joints. Provide firm adhesion to substrates.
4. Sealant profiles
 - 4.1. Butt and lap joints: Slightly concave.
 - 4.2. Fillet joints: Flat.
5. Protection: Do not contaminate or damage finished joints.

System completion

Ss_30_14_90/801 Protection of completed pavements

1. Mortar bedded paving
 - 1.1. Protection: Protect from pedestrian or vehicular traffic for the minimum required periods.
 - 1.2. Traffic free periods (minimum)
 - 1.2.1. Pedestrian traffic: Minimum 24 hours
To supplier's guidelines.
 - 1.2.2. Vehicular traffic: Minimum 7 days
To supplier's guidelines.

Ss_30_14_90/805 Verification of performance

Shared by: [Ss_30_14_90_85 Small unit unbound paving systems](#)

1. Requirement: Check completed system and provide assurance of compliance with specified performance.
2. Submittals
 - 2.1. Format: Description of inspections, remedial works carried out and certification of compliance.
 - 2.2. Timing: Before Practical Completion.

Ω End of System

Ss_30_14_90_85 Small unit unbound paving systems

Systems

Ss_30_14_90_85 Small unit unbound paving systems

1. Description: Concrete Block Paving to Pedestrian Areas with Occasional Service Vehicle Access
2. System performance: [Ss_30_14_90/255 Slip and skid resistance of unit pavements](#); [Ss_30_14_90/251 Accessibility of unit pavements](#)
3. System manufacturer: Name: Hardscape Products Ltd
Web: www.hardscape.co.uk
Tel: +44 (0)1204 565500
4. Standard: To [BS 7533-1](#) or [BS 7533-2](#) depending on location. Refer to engineer's drawings.
5. Geotextile below granular sub-base: To engineer's specification
6. Granular sub-base: To engineer's specification
7. Paving course
 - 7.1. Paving units: [Pr_25_93_60_17 Concrete paving blocks](#)
 - 7.2. Jointing: To BS EN 12620 and BS 7533-3, as recommended by the manufacturer.
8. Samples required: [Ss_30_14_90/305 Product samples](#)
9. Execution: [Ss_30_14_90/601 Installation control samples](#); [Ss_30_14_90/603 Protection of paving during works](#); [Ss_30_14_90/605 Adverse weather and unit paving construction](#); [Ss_30_14_90/609 Cutting paving units](#); [Ss_30_14_90/611 Permissible deviations from design levels for unit paving](#); [Ss_30_14_90/613 Regularity of finished paving surface](#); [Ss_30_14_90/614 Regularity of finished paving surface for accessibility](#); [Ss_30_14_90/617 Avoidance of colour banding in unit paving](#); [Ss_30_14_90/665 Laying unbound concrete block and clay paver pavements](#); [Ss_30_14_90/781 Final compaction of unbound paving](#)
10. System completion: [Ss_30_14_90/805 Verification of performance](#)

System performance

See [Ss_30_14_90/251 Accessibility of unit pavements](#) in [Ss_30_14_90_75 Small unit bound paving systems](#)

Ss_30_14_90/255 Slip and skid resistance of unit pavements

1. Slip resistance value – water wet (minimum)
 - 1.1. Level surfaces:
 - 1.2. Inclined surfaces, up to 1:20 pitch:
2. Skid resistance:
3. Demonstrating performance
 - 3.1. Submittals:
 - 3.2. Testing company:

Products

See [Pr_25_93_60_17 Concrete paving blocks](#) in [Ss_30_14_90_75 Small unit bound paving systems](#)

See [Ss_30_14_90/305 Product samples](#) in [Ss_30_14_90_75 Small unit bound paving systems](#)

Execution

Ss_30_14_90/601 Installation control samples

1. Required samples

- 1.1. **Paving types:** Concrete block paving
- 1.2. **Purpose:** For use as an installation reference sample.
- 1.3. **Size (minimum):** 2.0 x 2.0 m.
- 1.4. **Location:** On site.
- 1.5. **Features to be included:** To include appropriate features such as kerbs, tree grilles, drainage channels, edgings and junction with building facade as necessary.
2. **Timing:** Construct during preliminary installation. Obtain approval of appearance before proceeding.

Ss_30_14_90/603 Protection of paving during works

1. **Cleanliness:** Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. **Materials storage:** Do not overload pavings with stacks of materials.
3. **Handling:** Do not damage paving unit corners, arrises, or previously laid paving.
4. **Access:** Restrict access to paved areas to prevent damage from site traffic and plant.

Ss_30_14_90/605 Adverse weather and unit paving construction

1. **Standard:** In accordance with [BS 7533-3](#).
2. **General**
 - 2.1. **Temperature:** Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - 2.2. **Frozen materials:** Do not use. Do not lay bedding on frozen or frost covered bases.
3. **Kerbs edgings, and channels:** Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.
4. **Paving with mortar joints or bedding:** Protect from frost damage, rapid drying out and saturation until mortar has hardened.
5. **Paving with fine aggregate bedding and joints**
 - 5.1. **Stockpiled laying course material:** Protect from saturation.
 - 5.2. **Exposed areas of laying course material and uncompacted areas of unbound paving:** Protect from heavy rainfall.
 - 5.3. **Saturated laying course:** Remove and replace, or allow to dry before proceeding.
 - 5.4. **Laying dry fine aggregate jointed paving in damp conditions :** Brush in as much fine jointing aggregate as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

Ss_30_14_90/607 Laying unit pavings generally

1. **Standard:** In accordance with Highways England [MCHW Volume 1: Specification for highway works](#).
2. **Setting out:** Start from an edge restraint.
3. **Paving units:** Free of damage, mortar and sand stains. Interlocking units to be adequately connected
4. **Appearance:** Smooth and even with regular joints. Accurate to line, level and profile.
5. **Cut edges:** Turn inwards where possible. Do not position against edge restraints or other features.
6. **Laying course:** Grade consistently and accurately. Spread and compact to produce uniform thickness and support for paving units.
7. **Bedding of paving units:** Firm so that rocking or subsidence does not occur or develop.
8. **Falls:** Prevent ponding.

9. **Laying on slopes:** Lay paving units upwards from the bottom of slopes.

Ss_30_14_90/609 Cutting paving units

1. **Generally:** Cut units cleanly, accurately and vertically, without spalling, to give neat junctions with edgings and adjoining finishes. Do not mark or damage visible surfaces.

Minimum permitted cut sizes to be no smaller than 1/3 (one third) of the original unit length or width or 100mm, whichever is greater.

Ss_30_14_90/611 Permissible deviations from design levels for unit paving

1. **Standard:** To [BS 7533-3](#).
2. **Permissible deviation from specified levels (mm)**
 - 2.1. **Permeable pavements**
 - 2.1.1. Sub-base: -20 to +20 mm.
 - 2.1.2. Roadbase: -20 to +20 mm.
 - 2.1.3. Laying course: -20 to +20 mm.
 - 2.1.4. Surface course: ± 6 mm.
 - 2.1.5. Kerbs and channels: ± 6 mm.
 - 2.2. **Conventional pavements**
 - 2.2.1. Sub-base: -10 to +5 mm.
 - 2.2.2. Roadbase: -10 to +5 mm.
 - 2.2.3. Laying course: -5 to +10 mm.
 - 2.2.4. Surface course: ± 6 mm.
3. **Height of finished paving above features**
 - 3.1. At gullies: +6 to +10 mm.
 - 3.2. At drainage channels and kerbs: +3 to +6 mm.

Ss_30_14_90/613 Regularity of finished paving surface

1. **Standards:** In accordance with [BS 7533-3](#), [BS 7533-4](#) and [BS 7533-7](#).
2. **Method of measurement:** Under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
3. **Maximum undulations in the pavement surface**
 - 3.1. Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
 - 3.2. Precast concrete flags or natural stone slabs: 3 mm.
 - 3.3. Natural stone setts and cobbles, and rigid construction with precast concrete block pavers: 3 mm.
4. **Sudden irregularities:** Not permitted.
5. **Difference in level between adjacent paving units (maximum):** 2 mm.

Ss_30_14_90/614 Regularity of finished paving surface for accessibility

1. **Standard:** In accordance with [BS 8300-1](#).
2. **Method of measurement:** Under a 1m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
3. **Maximum undulations in the pavement surface:** 3 mm.
4. **Joints between paving units or utility access covers**

- 4.1. **Joints flush with the surface:** Difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
- 4.2. **Recessed, filled joints:** Difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
- 4.3. **Unfilled joints:** Difference in level between adjacent units to be no greater than 2 mm.
5. **Sudden irregularities:** Not permitted.

Ss_30_14_90/617 Avoidance of colour banding in unit paving

1. **General:** Unless premixed by manufacturer, select from separate packs in rotation to avoid colour banding.

Ss_30_14_90/665 Laying unbound concrete block and clay paver pavements

1. **General requirements:** [Ss_30_14_90/607 Laying unit pavings generally](#)
2. **Standard:** In accordance with [BS 7533-3](#).
3. **Bond:** Staggered bond as shown on drawing RFM-XX-00-L-8004.
4. **Joint width:** 2–5 mm.

Ss_30_14_90/781 Final compaction of unbound paving

1. **Sand dressing:** Leave a thin layer of dry fine aggregate jointing material over the paving, sweep clean before practical completion.
2. **Final compaction of the surface course:** In accordance with [BS 7533-3](#).

System completion

See [Ss_30_14_90/805 Verification of performance](#) in [Ss_30_14_90_75 Small unit bound paving systems](#)

Ω End of System

Ss_30_75_45_45 Light duty kerb systems

Systems

Ss_30_75_45_45 Light duty kerb systems

1. Description: Light duty kerbs and edgings which will receive light traffic or pedestrian only.
2. System performance: [Ss_30_75_45/201 Design of kerbs, channels and pavement level features](#)
3. System manufacturer: Marshalls PLC
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
4. Mortar bedding: [Ss_30_75_45/701 Site batched and mixed cement gauged mortar](#)
5. Units: [Pr_25_93_45_26 Conservation kerbs](#); [Pr_35_90_22_52 Metal edgings](#)
6. Layout: As per drawings.
7. Jointing: [Ss_30_75_45/701 Site batched and mixed cement gauged mortar](#)
8. Execution: [Ss_30_75_45/607 Cutting kerb and channel units](#); [Ss_30_75_45/603 Protection of materials during works](#); [Ss_30_75_45/605 Adverse weather](#); [Ss_30_75_45/613 Setting out kerbs and channels](#); [Ss_30_75_45/617 Permissible deviation from design levels for kerbs, channels and pavement level features](#); [Ss_30_75_45/641 Laying kerb and channel units generally](#); [Ss_30_75_45/637 Laying units on fresh concrete races](#); [Ss_30_75_45/659 Installing metal edgings](#); [Ss_30_75_45/711 Tooled mortar joints for kerb, edging and channel units](#)
9. System completion: [Ss_30_75_45/801 Protection of kerbs, channels and pavement level features](#)

System performance

Ss_30_75_45/201 Design of kerbs, channels and pavement level features

1. Standards
 - 1.1. Structural design of unit pavements generally: In accordance with [Design and detailing with concrete kerbs, channels and similar products](#).
 - 1.2. Natural stone, precast concrete and clay kerbs and channels: In accordance with [BS 7533-6](#).

Products

Pr_25_93_45_26 Conservation kerbs

1. Description: Pre-cast concrete conservation kerb
2. Manufacturer: Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. Product reference: RK6500000 or similar approved
4. Dimensions (mm): 145 x 255 x 915
5. Material: Hydraulically pressed precast concrete made with granite aggregate. 48.3% recycled materials
6. Colour: Silver Grey
7. Special Units: Right Angle Corner Piece

See [Pr_35_90_22_52 Metal edgings](#) in [Ss_30_14_02_71 Resin-bound aggregate light duty paving systems](#)

Execution

Ss_30_75_45/603 Protection of materials during works

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. **Cleanliness:** Keep units clean and free from mortar droppings, oil and other materials likely to cause staining.
2. **Materials storage:** Do not overload units with stacks of materials.
3. **Handling:** Do not damage units, unit corners, arrises, or previously laid paving or kerbs.
4. **Access:** Prevent damage from site traffic and plant.

Ss_30_75_45/605 Adverse weather

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. **Standard:** In accordance with [BS 7533-6](#).
2. **General**
 - 2.1. **Temperature:** Do not lay or joint kerb or channel units if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - 2.2. **Frozen materials:** Do not use. Do not lay bedding on frozen or frost covered bases.
3. **Kerbs edgings, and channels:** Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

Ss_30_75_45/607 Cutting kerb and channel units

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. **Generally:** Cut units cleanly, accurately and vertically, without spalling, to give neat junctions with edgings and adjoining finishes. Do not mark or damage visible surfaces.
2. **Natural stone:** In accordance with [BS 7533-6](#). Cut units with a disc cutter or masonry saw.
3. **Precast concrete units:** To Interpave [Cutting paving. Cutting precast concrete blocks flags and kerbs - efficient design and managing the risk](#).
4. **Cutting of mitres:** Not permitted.

Ss_30_75_45/613 Setting out kerbs and channels

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. **Alignment:** Straight lines or smoothly flowing curves, following profile of the ground.
2. **Layout**
 - 2.1. **Kerbs and channels:** Radii of 12 m or less.
 - 2.2. **Angle kerbs:** Internal and external 90° changes of direction.
 - 2.3. **Kerbs at vehicular crossings:** 25 mm above final road surface.
 - 2.4. **Kerbs at pedestrian crossing points:** 6 mm above channel level at the low side, and level with the channel at the high side of the road.

Ss_30_75_45/617 Permissible deviation from design levels for kerbs, channels and pavement level features

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. **Standard:** In accordance with [BS 7533-6](#).
2. **Permissible deviation from specified levels (mm)**
 - 2.1. **Level:** ±6 mm.

- 2.2. Horizontal and vertical alignment: 3 mm in 3 m.
- 3. Height of finished paving above features
 - 3.1. At gullies: +6 to +10 mm.
 - 3.2. At drainage channels and kerbs: +3 to +6 mm.

Ss_30_75_45/637 Laying units on fresh concrete races

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

- 1. Standard: In accordance with [BS 7533-6](#).
- 2. Dimensions of concrete race
 - 2.1. Width: Wide enough to accommodate units and backing concrete.
 - 2.2. Depth: 150 mm.
- 3. Bedding of units: Position true to line and level along top and front faces.
- 4. Backing: Laid monolithically with a race of fresh concrete, adequately restrained by adjacent material.

Ss_30_75_45/641 Laying kerb and channel units generally

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

- 1. Standard: In accordance with [BS 7533-6](#).
- 2. Appearance: Smooth and even with regular joints. Accurate to line, level and profile.

Ss_30_75_45/659 Installing metal edgings

- 1. Fixing
 - 1.1. Method: Fixed vertically with stakes and all units fully interlocking.
 - 1.2. Centres: To manufacturer's specification.
 - 1.3. Installation height: Flush.

Ss_30_75_45/701 Site batched and mixed cement gauged mortar

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

- 1. Components: To contractor's specification.
- 2. Mix: To contractor's specification.
- 3. Colour: Match kerb or channel units.
- 4. Admixture: Colouring agent to match kerbs.

Ss_30_75_45/711 Tooled mortar joints for kerb, edging and channel units

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

- 1. Jointing: Butter ends of units with bedding mortar as laying proceeds. Completely fill joints and tool to a neat flush profile.
- 2. For coloured mortar: Completely fill joints and rake out to a depth of 10 mm for pointing with coloured mortar.
- 3. Joint width: 2 mm.

System completion

Ss_30_75_45/801 Protection of kerbs, channels and pavement level features

Shared by: [Ss_30_75_45_85 Traffic kerb systems](#)

1. Mortar bedded kerbs, channels, pavement level features, etc.
 - 1.1. Protection: Protect from pedestrian or vehicular traffic for the minimum required periods.
 - 1.2. Traffic free periods (minimum)
 - 1.2.1. Pedestrian traffic: Minimum 24 hours.
 - 1.2.2. Vehicular traffic: Minimum 7 days.

Ω End of System

Ss_30_75_45_85 Traffic kerb systems

Systems

Ss_30_75_45_85 Traffic kerb systems

1. Description: Kerbs and edgings on the highway.
2. System manufacturer: Marshalls PLC
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. Bedding: [Ss_30_75_45/701 Site batched and mixed cement gauged mortar](#)
4. Units: [Pr_25_93_45_70 Road kerbs](#)
5. Jointing: [Ss_30_75_45/701 Site batched and mixed cement gauged mortar](#)
6. Execution: [Ss_30_75_45/603 Protection of materials during works](#); [Ss_30_75_45/605 Adverse weather](#); [Ss_30_75_45/613 Setting out kerbs and channels](#); [Ss_30_75_45/617 Permissible deviation from design levels for kerbs, channels and pavement level features](#); [Ss_30_75_45/607 Cutting kerb and channel units](#); [Ss_30_75_45/641 Laying kerb and channel units generally](#); [Ss_30_75_45/636 Laying units on existing carriageway base](#); [Ss_30_75_45/637 Laying units on fresh concrete races](#); [Ss_30_75_45/711 Tooled mortar joints for kerb, edging and channel units](#); [Ss_30_75_45/601 Work on or adjacent to highways](#)
7. System completion: [Ss_30_75_45/801 Protection of kerbs, channels and pavement level features](#)

Products

Pr_25_93_45_70 Road kerbs

1. Description: Pre-cast concrete kerbs to carriageway
2. Manufacturer: Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. Product reference: Marshalls British Standard Half Battered Concrete Kerb or similar approved
4. Dimensions:: 125mm x 255mm x 915mm
5. Standards: BS EN 1340-2003
6. Accessories: Radial units and drop kerbs where required
7. Execution: 120mm upstand to adoptable standards

Execution

Ss_30_75_45/601 Work on or adjacent to highways

1. Requirement: Comply with the Department for Transport (DfT) [Safety at street works and road works - a code of practice](#). Retain a copy of this document on site during the course of the works.
2. Standard: In accordance with [MCHW Volume 1: Specification for highway works \(SHW\)](#), series 1100.

See [Ss_30_75_45/603 Protection of materials during works](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/605 Adverse weather](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/607 Cutting kerb and channel units](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/613 Setting out kerbs and channels](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/617 Permissible deviation from design levels for kerbs, channels and pavement level features](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

Ss_30_75_45/636 Laying units on existing carriageway base

1. Standard: In accordance with [BS 7533-6](#).
2. Depth of mortar:
3. Bedding of units: Position true to line and level along top and front faces.
4. Movement joints: Ensure joints continue through base and units.

See [Ss_30_75_45/637 Laying units on fresh concrete races](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/641 Laying kerb and channel units generally](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/701 Site batched and mixed cement gauged mortar](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

See [Ss_30_75_45/711 Tooled mortar joints for kerb, edging and channel units](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

System completion

See [Ss_30_75_45/801 Protection of kerbs, channels and pavement level features](#) in [Ss_30_75_45_45 Light duty kerb systems](#)

Ω End of System

Ss_35_10_25_35 External stair systems

Systems

Ss_35_10_25_35 External stair systems

1. Description: Feathered steps within building demise and single step in wider planning boundary
2. System manufacturer: Marshalls PLC
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. Surface
 - 3.1. Layout: As drawings.
 - 3.2. Going: [Pr_25_30_90_85 Stone step units](#)
 - 3.3. Rise: [Pr_25_30_90_85 Stone step units](#)
 - 3.4. Landings: None.
 - 3.5. Jointing: Mastic jointing, Maximum 6mm
 - 3.6. Applied anti-slip treatment: Not required.
 - 3.7. Applied stair nosings: Integrated.
4. System accessories: [Pr_25_30_36_11 Handrails](#)
5. Samples required: [Ss_35_10_25/305 Product samples](#)
6. Execution: [Ss_35_10_25/610 Preconstruction survey](#); [Ss_35_10_25/630 Concrete foundations for external ramp and stair systems generally](#); [Ss_35_10_25/670 Installation of external stairs and ramp systems generally](#); [Ss_35_10_25/672 Installation of manufactured stone elements for external stairs](#); [Ss_35_10_25/690 Adverse weather during execution of external stairs and ramps](#)
7. System completion: [Ss_35_10_25/810 Inspection of external ramps and stair systems](#)

Products

Pr_25_30_36_11 Handrails

1. Description: Handrails with powder coated steel frame, timber handrails and integrated lighting. Refer to drawing **RFM-XX-00-DR-L-8006-Step Details**.
2. Manufacturer: Handrail design subject to further design between landscape architect and fabricator.
3. Diameter: 50 mm.
4. Cross section: Elliptical.
5. Finish
 - 5.1. Requirement: Powder coating to [BS EN 13438](#).
 - 5.2. Colour: RAL 8000
 - 5.3. Timber:: Treated hardwood timber, sustainably sourced.
6. Accessories
 - 6.1. Materials generally: Mild steel with galvanised finish, polyester powder coated and hardwood timber handrail.
 - 6.2. Base plates and covers: Discreet base plate, size to suit handrail diameter.
 - 6.3. Angles and tees: Handrail tube adjustable elbow, size to suit handrail diameter.

- 6.4. **Dimensions::** Above pitch line 900mm
Above landing 1000mm
Project 300mm beyond nosing of top and bottom step
7. **Notes::** Refer to drawing RFM-XX-00-DR-L-8006-Step Details for design intent, to be developed further with fabricator.
Check site dimensions before ordering, give notice of discrepancies.

Pr_25_30_90_85 Stone step units

1. **Description:** Granite step units with integrated contrast nosing
2. **Supplied by:** Marshalls PLC
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. **Product reference:** : Neso Granite & Praga Granite or similar approved
4. **Quarry of Origin::** Villa Real, Portugal & Vietnam
5. **Standard:** To [BS EN 771-5](#).
6. **Sustainability:** Ethical Risk Index Minimum 4.2, any substitutions to match ERI
7. **Size**
 - 7.1. **Surface width:** Refer to drawing RFM-XX-00-DR-L-8006-Step Details for actual unit sizes.
 - 7.2. **Going:** 300 mm.
 - 7.3. **Rise:** 170mm.
8. **Colour:** Neso granite
Light beige with Grey Black and Orange inclusions
9. **Finish:** Neso - Blasted
Praga - Flamed
10. **Colour of integral nosing:** Praga granite
A pale grey bluish, medium coarse grained granite
11. **Execution::** [Ss_35_10_25/630 Concrete foundations for external ramp and stair systems generally](#)
[Ss_40_20_30/510 Fabrication generally](#); [Ss_40_20_30/620 Setting components in concrete](#)

Ss_35_10_25/305 Product samples

1. **Manufacturer:** Marshalls PLC
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
2. **Submittals:** Product samples of both granite types.
3. **Purpose:** For use as a reference sample.
4. **Labelling:** Clearly label all submitted samples.
5. **Timing:** Before ordering for project.

Ss_40_20_30/510 Fabrication generally

1. **Generally:** Machine cut and drill products and carry out as much assembly as possible in the workshop.
2. **Joints:** Rigidly secure. Reinforce where necessary. Fix with hairline abutments.
3. **Electrolytic corrosion:** Prevent. Submit proposed methods.

4. **Identification of products:** Mark or tag to facilitate identification during assembly, handling, storage and installation. Do not mark surfaces visible in the completed fence or barrier.

Execution

Ss_35_10_25/610 Preconstruction survey

1. **Procedure:** Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. **Primary support structure:** Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
3. **Timing:** Before fabrication.

Ss_35_10_25/630 Concrete foundations for external ramp and stair systems generally

1. **Standard:** To [BS 8500-2](#).
2. **Setting out:** Foundation configuration as design drawings and details.
3. **Mix:** Designated concrete not less than GEN 1 or standardized prescribed concrete not less than ST2.
4. **Admixtures:** Do not use.
5. **Foundation holes:** Neat vertical sides.
6. **Depth of foundations, bedding, haunching:** Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

Ss_35_10_25/670 Installation of external stairs and ramp systems generally

1. **Structural members:** Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
2. **Temporary support:** Do not use finished work as temporary support or strutting for other work.
3. **Site finish:** Ensure that steps have equal consistency in terms of going, rise and nosing sizes.

Ss_35_10_25/672 Installation of manufactured stone elements for external stairs

1. **Damaged units:** Do not use.
2. **Accuracy**
 - 2.1. **Courses:** Level and true to line.
 - 2.2. **Faces, angles and features:** Plumb.
 - 2.3. **Setting out:** Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
3. **Absorbent units:** Dampen in warm weather to reduce suction.
4. **Mortar joints**
 - 4.1. **Size:** 6mm wide
 - 4.2. **Profile:** Recessed.
 - 4.3. **Laying:** Full bed of mortar. Fill joints and voids.
 - 4.4. **Temporary distance pieces:** Lead or stainless steel. Remove when mortar is sufficiently strong.
 - 4.5. **Appearance:** Neat and consistent.
5. **Cleanliness**
 - 5.1. **Facework:** Keep clean.
 - 5.2. **Rubbing and other abrasive or chemical cleaning methods to remove marks and stains:** Not permitted.

6. Cutting of reinforced units: Not permitted.

Ss_35_10_25/690 Adverse weather during execution of external stairs and ramps

1. General: Do not use frozen materials and do not lay on frozen surfaces.
2. Working limits
 - 2.1. Cement gauged mortars: Do not lay blocks/ dressings when the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and work is thoroughly protected).
 - 2.2. Hydraulic lime and sand mortars : Do not lay blocks/ dressings when the air temperature is at or below 5°C and falling or below 3°C and rising.
3. Temperature of the work: Maintain above freezing until mortar has fully set.
4. Newly erected work: Protect from precipitation. Prevent rapid drying in hot conditions.
5. Remedial work
 - 5.1. Mortar damaged by frost: Rake out and replace.
 - 5.2. Cracked and damaged masonry: Rebuild.

Ss_40_20_30/620 Setting components in concrete

Shared by: [Ss_40_20_30_28 External furniture systems](#)

1. Formation: Excavate neatly, with vertical sides.
2. Components: Accurately position and securely support. Maintain undisturbed for 48 hours (minimum).
3. Exposed concrete: Specification TBC with architect.

System completion

Ss_35_10_25/810 Inspection of external ramps and stair systems

1. Timing: Give reasonable notice before covering up.
2. Period of notice (minimum): 3 working days.

Ω End of System

Ss_40_20_30_28 External furniture systems

Systems

Ss_40_20_30_28 External furniture systems

1. Description: System relevant to street furniture within the building and planning boundary demise
2. Foundations:

Ss_40_20_30/620 Setting components in concrete

3. External furniture: Pr_40_50_07_47 Litter bins; Pr_20_76_08_51 Metal bollards - Fixed; Pr_20_76_08_15 Metal bollards - Collapsible; Pr_40_50_12_07 Benches; Pr_40_30_21_12 Cycle stands; Pr_45_63_64_87 Tree grilles Type 01; Pr_45_63_64_87 Tree grilles Type 02; Pr_40_50_12_07 Granite Seating Wall; Pr_80_77_48_80 Steel columns with catenary lighting
4. Execution: Ss_40_20_30/607 Work on street furniture generally; Ss_40_20_30/620 Setting components in concrete; Ss_20_10_70/650 Making good galvanized surfaces; Pr_35_31_68/620 Application of powder coating
5. System completion: Ss_40_20_30/823 Requirements for completion

Products

Pr_20_76_08_15 Metal bollards - Collapsible

1. Description: Collapsible powder coated metal bollard
2. Manufacturer: Furnitubes International Ltd.
Web: www.furnitubes.com.
Tel: +44 (0)20 8378 3200.
3. Product reference: Zenith ZEN 851 or similar approved
4. Dimensions (mm): Above ground: 1000 mm.
Below ground: 300 mm.
Diameter: 115 mm.
Weight: 12 kg.
5. Materials and Finishes: Steel, polyester powder coated finish
RAL 8000
6. Standards: BS 8300
7. Fixing: Removable
8. Socket: F1 series socket

FI115 - Large composite socket for 115 mm diameter.

9. Execution: To manufacturer's specification;

Prepare the foundation depth at least 75mm deeper than the overall height of the socket and fill below with hard-core or gravel to allow for drainage.
Place the socket in the centre of the hole, ensuring there is good clearance on all sides, and hold in vertical position.
Concrete mix to 25 newtons, pour and then compact well and check that socket is vertical until set.

10. **Completion:** Make good any chipping to powder coated finish with colour matched appropriate product after installation

Pr_20_76_08_51 Metal bollards - Fixed

1. **Description:** Fixed powder coated metal bollard with sloped top
2. **Manufacturer:** Furnitubes International Ltd.
Web: www.furnitubes.com.
Tel: +44 (0)20 8378 3200.
3. **Product reference:** Zenith Sloped Bollard ZEN 851 or similar approved
4. **Dimensions (mm):** Above ground: 1000 mm.
Below ground: 300 mm.
Diameter: 115 mm.
Weight: 12 kg.
5. **Materials and Finishes:** Steel, polyester powder coated finish - RAL 8000
6. **Fixing:** Root fixed
7. **Standards:** BS 8300
8. **Accessories:** None
9. **Execution:** To manufacturer's specification;

Foundation depth is usually the same as the root depth of the bollard.
Minimum recommended foundation is the root diameter plus 200mm.
Concrete mix to 25 newtons. To engineer's specification.

10. **Completion:** Make good any damage to polyester powder coating with colour matched product after installation.

Pr_40_30_21_12 Cycle stands

1. **Description:** Galvanised steel Ribbon Cycle Stand or similar approved
2. **Manufacturer:** Furnitubes International Ltd.-Web: www.furnitubes.com.
Tel: +44 (0)20 8378 3200.
3. **Product reference:** RIB 750
4. **Fixing:** Root fixed to manufacturer's specification
5. **Material/ Finish:** Steel
Cycles adjacent to building in RAL 8000
Cycles within SRF Galvanised finish only
6. **Installation:** Space stands at minimum 800mm centres
Space stands at minimum 800mm from vertical structures
7. **Execution:** Repair any damage to powder coating once stands are installed
Landscape architect may reject any badly damaged units for replacement

Pr_40_50_07_47 Litter bins

1. **Description:** Powder coated metal litter bins with cover
2. **Manufacturer:** Vestre UK
Pb 49 Tasen, N-0801 Oslo, Norway
+44 7780 770945
romy@vestre.com
3. **Product:** 1544 Bloc litter bin 140L or similar approved
4. **Material:** Carbon steel.

5. **Base:** Root.
6. **Finish as delivered:** Galvanized to BS EN ISO 1461 and powder coated to BS EN 13438.
7. **Colours:** RAL 8000
8. **Accessories:** Galvanized steel liner. Hinged, locking side door.

Pr_40_50_12_07 Benches

1. **Manufacturer:** Europlanters Ltd

T: 0161 449 7900
W: www.europlanters.com
E: sales@europlanters.co.uk

Europlanters Ltd.,
Chadkirk Business Park,
Vale Road,
Romiley,
Cheshire,
SK6 3NE

2. **Product reference:** Bench5 with bespoke details as below or similar approved
3. **Type:** Refer to design intent drawing **RFM-XX-00-DR-L-8007-Street Furniture**; to be developed with manufacturer. In summary;

Benches along edge of Square:
Timber bench with metal frame, longer length legs for root fixing, back and arm rests

Benches outside main entrance of building:
Timber bench with metal frame, with longer length legs for root fixing

4. **Size (w x h):** Refer to design intent drawing **RFM-XX-00-DR-L-8007-Street Furniture**; to be developed with manufacturer. Will include;

Benches along edge of Square:
2000mm (L) x 500mm (W) x 450mm (height above ground), with longer length legs for root fixing, back and arm rests

Benches outside main entrance of building:
2000mm (L) x 430mm (W) x 450mm (height above ground), with longer length legs for root fixing,

5. **Design:** As drawing
To be developed with manufacturer
6. **Material/ Finish**
 - 6.1. **Slats:** Sapele timber, smooth planed finish
 - 6.2. **Frame:** Steel, polyester powder coated, RAL 8000
7. **Backrest:** To benches on edge of square only.
Refer to design intent drawing **RFM-XX-00-DR-L-8007-Street Furniture**
Sapele timber, concealed fixings
8. **Armrests:** To benches on edge of square only.
Refer to design intent drawing **RFM-XX-00-DR-L-8007-Street Furniture**
Steel with Sapele timber top

Pr_40_50_12_07 Granite Seating Wall

1. **Description:** Solid granite unit seating wall
2. **Manufacturer:** Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. **Product Reference::** Neso Granite or similar approved
4. **Quarry of Origin::** Villa Real, Portugal
5. **Dimensions (mm)::** Refer to drawing **RFM-XX-00-DR-L-8015-S4-P01-Granite Wall Details**
6. **Finish::** Blasted
7. **Standards::** Produced to ISO9001 quality assurance standards, Marshalls Neso Granite is CE marked in accordance with the latest legislation
8. **Sustainability::** Ethical Index Score: 3.5; any substitutions should achieve minimum EIS
9. **Technical characteristics::** Tolerances (to BS EN 1342): Class 2.
Abrasion resistance (to EN 14157): 17.5 mm.
Density (to EN 1936: 2006): 2634 kg/m³.
Open porosity (to EN 1936: 2006): 0.93%.
Compressive strength (to EN 1926: 2006): 159 MPa.
Water absorption (to EN 13755: 2008): 0.34%.
Flexural split/ breaking (to EN 12372: 2006): 15.7 MPa
Light reflectance value (LRV): Blasted: 48.67; flamed: 48.43; polished/ honed: 41.84.
Surface roughness: Blasted: >75 Rz-µm; flamed: 34 Rz-µm; polished/ honed: 32 Rz-µm.
Dry slip resistance (to BS 14231): Blasted: 98; flamed: 94; polished/ honed: 72.
Wet slip resistance (to BS 14231): Blasted: 72; flamed: 72; polished/ honed: 52.
10. **Execution::** Any damage or exceeding of tolerance should be reviewed on a case by case basis and either replaced or, where appropriate, made good in situ on manufacturer's recommendations.
11. **Base:** Root to engineer's specification.
12. **Colours:** White and pale grey with yellow to orange spots coarse Granite.
13. **Accessories:** Radius corners refer to **RFM-XX-00-DR-L-8015-S4-P01-Granite Wall Details**

Pr_45_63_64_87 Tree grilles Type 01

1. **Description:** Bespoke metal tree grille with integrated artwork
2. **Manufacturer:** GreenBlue Urban Ltd
Web: www.greenblue.com
Email: enquiries@greenblueurban.com
Tel: +44 (0)1580 830800
Address: Northpoint, Compass Park, Junction Road, Bodiam, East Sussex TN32 5BS
3. **Product::** Bespoke Design Service
<https://www.greenblue.com/gb/type/bespoke-design-service/>
4. **Material:** Steel.
5. **Finish:** Polyester powder-coated.
6. **Colour:** RAL 8000
7. **Shape:** Square.
8. **Size:** 1500 x 1500 mm.
9. **Internal aperture:** 600 mm.

10. **Accessories:** Medium duty frame, unless tracked by MEWP.
RootRain Hydrogrille System installation.
Hole for uplight luminaire.
Integrated wayfinding artwork TBC with landscape architect and fabricator.
11. **Execution:** [Pr_45_63_64/650 Installing tree grilles and surrounds Type 01 and 02](#)
Make good any damage to polyester powder coated finish with appropriate colour matched product to fabricator's specification.
Backfill with gravel to landscape architect's specification.

Pr_45_63_64_87 Tree grilles Type 02

1. **Description:** Tree grille with inset paving - resin bound gravel or concrete block paver according to location.
2. **Manufacturer:** GreenBlue Urban Ltd
Web: www.greenblue.com
Email: enquiries@greenblueurban.com
Tel: +44 (0)1580 830800
Address: Northpoint, Compass Park, Junction Road, Bodiam, East Sussex TN32 5BS
3. **Product:** Zeta GBUZETA12A or similar approved
4. **Material:** Steel.
5. **Finish:** Hot-dip galvanized to [BS EN ISO 1461](#).
6. **Colour:** None – self-colour.
7. **Shape:** Square.
8. **Size:** 1200 x 1200 mm.
9. **Internal aperture:** 600 mm.
10. **Accessories:** RootRain Hydrogrille System installation.
Recessed cover for paving infill.
Hole for uplight luminaire.
11. **Execution:**

Tree grille should not be lifted once filled with paving. [Pr_45_63_64/650 Installing tree grilles and surrounds Type 01 and 02](#)

Pr_80_77_48_80 Steel columns with catenary lighting

1. **Description:** Bespoke powder coated steel columns with permanent catenary lighting.
2. **Supplier:** Studiotech (UK) Ltd:
Head Office, Bridge House, Unit 13, Latham Close, Bredbury, Stockport, SK6 2SD
info@studiotech.co.uk
+44(0)161 292 9000
3. **Standard:** To [BS EN 40-5](#).
4. **Cross section:** Round, tapered.
5. **Height (nominal):** 3.5 m.
6. **Finish:** RAL 3003, 30% gloss
7. **Base**
 - 7.1. **Type:** Rooted.
 - 7.2. **Root length:** To be determined by fabricator.
8. **Corrosion protection**
 - 8.1. **Area A:** Galvanized to [BS EN ISO 1461](#). Powder coated.
9. **Column door locks and keys:** Door lock pattern to be the same for all columns installed. Keys to be the same for each group of columns.

10. **Catenary Lighting::** Catenary mounted luminaires mounted on tensioned steel wire rope, to structural engineer's design. Minimum of 1 x luminaire per linear metre. Luminaire casings to be powder coated to match columns.
11. **Accessories:** Festoon connection points.
12. **Execution:** [Pr_80_77_48/650 Installing lighting columns and brackets](#)
Pending design development between landscape architect and fabricator.

Execution

Pr_35_31_68/620 Application of powder coating

1. **Applicator:** Approved by powder coating manufacturer. Submit details before commencement of application.
2. **Commencement of powder coating:** Continuous from pretreatment.
3. **Protection:** Prevent damage to coated components during handling, installation and by subsequent site operations.
4. **Project guarantees:** Submit powder manufacturer and applicator guarantees demonstrating compliance with specification on completion of coating work.

Pr_45_63_64/650 Installing tree grilles and surrounds Type 01 and 02

1. **Installing frames:** Anchor to in situ concrete base.
2. **Installing tree grilles and surrounds:** To manufacturer's specification.
Lay level in frame.

Pr_80_77_48/650 Installing lighting columns and brackets

1. **Installation generally:** To [Highways England Specification for highway works Volume 1](#) when in adopted areas.
2. **Foundations:** In accordance with [PD 6547](#), section 6.
3. **Access doors:** Orientate so that maintenance operatives face oncoming traffic.
4. **Hinged columns:** Site to allow lowering to horizontal.
5. **Position:** As per highway engineer's drawing and RFM-XX-00-DR-L-0001-GF GA

Ss_20_10_70/650 Making good galvanized surfaces

1. **Treatment of minor damage:** Permitted to areas less than 40 mm².
2. **Method:** Low melting point zinc alloy repair rods or powders.
3. **Zinc coating thickness (minimum):** Thickness of the original layer.

Ss_40_20_30/607 Work on street furniture generally

1. **Metal fixings:** Protect from corrosion.
2. **In situ welding:** Not permitted.
3. **Treatment of minor damage to galvanized surfaces**
 - 3.1. **Repairs to areas of damage less than 40 mm²**
 - 3.1.1. **Method:** Low melting point zinc alloy repair rods or powders.
 - 3.1.2. **Zinc coating thickness (minimum):** Thickness of the original layer.
4. **Site cutting of wood**
 - 4.1. **Components generally:** Minimize cutting.
 - 4.2. **Wood below or near ground level:** Do not cut.
 - 4.3. **Treatment of surfaces exposed by minor cutting and drilling**
 - 4.3.1. **Method:** Apply sufficient material to provide a coating equal to the original preservative.

4.3.2. Number of coats: Two.

5. Site applied finishes: Prepare surfaces and apply finishes as soon as possible after fixing.
6. Disposal of arisings
 - 6.1. Biodegradable arisings: Remove to recycling facility.
 - 6.2. Tree roots and stumps: Remove from site.
 - 6.3. Litter and nonbiodegradable arisings: Remove from site.

See [Ss_40_20_30/620 Setting components in concrete](#) in [Ss_35_10_25_35 External stair systems](#)

System completion

Ss_40_20_30/823 Requirements for completion

1. Condition: Leave the works in a clean, tidy condition. Clean immediately before handover.
2. Tools: Supply tools required for operation, maintenance and cleaning purposes.

Ω End of System

Pr_25_93_45_60 Pin kerbs

Products

Pr_25_93_45_60 Pin kerbs

1. **Description:** Pre-cast concrete edging to green screen planting bed
2. **Manufacturer:** Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. **Product reference:** Flat top edging 50mm x 250mm x 914mm
4. **Standards:** BS EN 1340-2003
5. **Execution:** Concrete foundation shuttered to maximise planting space. Minimum distance between foundation extent and building face to be no less than 500mm.

Ω End of Product

Pr_25_93_60_08 **Blister tactile pavers**

Products

Pr_25_93_60_08 Blister tactile pavers

1. **Description:** Pre-cast concrete blister tactile pavers
2. **Manufacturer:** Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. **Product reference:** Blister Paving or similar approved
4. **Colour:** Charcoal
5. **Dimensions (mm):** 400 x 400 x 65
6. **Standards:** To BS EN 1339: 2003.
7. **Execution:** No diagonal cuts.

Ω End of Product

Pr_25_93_60_26 Corduroy tactile pavers

Products

Pr_25_93_60_26 Corduroy tactile pavers

1. **Description:** Granite corduroy tactile pavers
2. **Manufacturer:** Marshalls
www.marshalls.co.uk
info@marshalls.co.uk
T: +44 (0)330 0574472
F: +44 (0)870 2414165
3. **Product reference:** Praga Granite Tactile Paving or similar approved
4. **Quarry of Origin:** Vietnam
5. **Dimensions (mm):** 400 x 400 x 80
6. **Finish:** Flamed
7. **Standards:** CE marked, and manufactured in accordance with BS EN 1341: 2012.
8. **Sustainability:** Ethical Index Score: 4.2; any substitutions to match EIS.
9. **Technical characteristics:** Tolerances on Work Dimensions (mm) Paving Class 1, Setts Class 2, Kerbs Class 2. Tolerances to all dimensions as standard. Others by agreement Others by agreement Abrasion Resistance (mm) 16mm (Mean value to EN 14157: 2004) Durability (Freeze-thaw) 18.2 MPa (Mean value to EN 12372: 2006 (After 56 cycles of Freeze / Thaw to EN 12371: 2010) Material Density 2820 kg/m³ (Mean value to EN 1936: 2006) Open Porosity (%) 0.5% (Mean value to EN 1936: 2006) Compressive Strength (MPa) 238 MPa (Mean value to EN 1926: 2006 (LEV = 223 MPa)) Water Absorption (%) 0.2% (Mean value to EN 13755: 2008) Transverse/FlexuralSplit/Breaking 18.2 MPa (Mean value to EN 12372: 2006 (LEV = 15.1 MPa))
10. **Execution:** No diagonal cuts.

Ω End of Product

Pr_65_52_01_02

Access covers and frames

Products

Pr_65_52_01_02 Access covers and frames

1. **Description:** Recessed manhole and access covers for paving infill
2. **Manufacturer:** To engineer's specification
3. **Standards:** To engineer's specification
4. **Third party certification:** To engineer's specification
5. **Configuration:** To engineer's specification
6. **Finish:** Block paving filled.
Paving to match surrounding laying pattern, including any edge courses.
7. **Clear opening (minimum):** To engineer's specification
8. **Load class (minimum):** D 400 where required for MEWP or vehicle over run.
9. **Frame or support:** To engineer's specification
10. **Integral accessories:** To engineer's specification

Ω End of Product

Pr_65_52_24_47

Linear slot drainage channels

Products

Pr_65_52_24_47 Linear slot drainage channels

1. **Manufacturer:** ACO Technologies plc
www.aco.co.uk
+44 (0)1462 816666
ACO Technologies plc, ACO Business Park, Hitchin Road, Shefford, Bedfordshire, SG17 5TE
2. **Product reference:** M100D Brickslot or similar approved
3. **Channel**
 - 3.1. **Type of fall:** Constant invert
 - 3.1.1. **Invert depths:** To engineer's specification
 - 3.2. **Joints:** To engineer's specification
 - 3.2.1. **Size:** To engineer's specification
4. **Finish:** As appropriate for location;
Galvanized/ Stainless steel twinslot offset Galvanized/ Stainless steel twinslot central
 - 4.1. **Accessories:** To engineer's specification
5. **Execution:** To engineer's specification.

Ω End of Product

Pr_80_77_48_80 Steel lighting totems Type A

Products

Pr_80_77_48_80 Steel lighting totems Type A

1. **Description:** Bespoke powder coated steel columns with permanent catenary lighting.
2. **Manufacturer:** Platek
T +39 030 68 18 215
paolo@platek.eu
<http://www.platek.eu/>
Platek srl
registered office: Via Paderno, 19
head office: Via Marrocco, 4
25050 Rodengo Saiano (BS) ITALY
3. **Product::** 5034664
T4 H. 3600 mm - LED 4000K
4. **Standard:** To [BS EN 40-5](#).
5. **Cross section:** Square
6. **Height (nominal):** 3.6 m.
7. **Finish::** RAL 8000
8. **Luminaire::** 4000K
9. **Base**
 - 9.1. **Type:** Rooted.
 - 9.2. **Root length:** To be determined by fabricator.
10. **Corrosion protection**
 - 10.1. **Area A:** Galvanized to [BS EN ISO 1461](#). Powder coated.
11. **Column door locks and keys:** Door lock pattern to be the same for all columns installed. Keys to be the same for each group of columns.
12. **Execution:** [Pr_80_77_48/650 Installing lighting columns and brackets Type A](#)
To M&E engineer's specification.

Execution

Pr_80_77_48/650 Installing lighting columns and brackets Type A

1. **Installation generally:** To [Highways England Specification for highway works Volume 1](#) when in adopted areas.
2. **Foundations:** In accordance with [PD 6547](#), section 6.
3. **Access doors:** Orientate so that maintenance operatives face oncoming traffic.
4. **Hinged columns:** Site to allow lowering to horizontal.
5. **Position:** As per highway engineer's drawing and RFM-XX-00-DR-L-0001-GF GA

Ω End of Product



Specification created using NBS Chorus