

Q25 SLAB/BRICK/SETT/COBBLE PAVINGS

To be read with Preliminaries General Conditions, sections AA31 and AA90 and Landscape Consultant's and Drainage Engineer's drawings and specifications.

GENERAL

105 MATERIAL SAMPLES

- Samples representative of colour and appearance of designated materials: Submit before placing orders.

- Designated materials:	Reclaimed Yorkstone:	Q25/305
	Reclaimed granite:	Q25/309
	New Yorkstone:	Q25/310A
		Q25/310B
		Q25/310D

Rev C2
Rev C2

Reused Yorkstone (sawn):	Q25/310C
Reused Yorkstone (riven):	Q25/310E
Reused granite:	Q25/311A
New granite:	Q25/312
Granite setts:	Q25/330
Concrete setts:	Q25/335
Sand:	Q25/376
	Q25/390

111 NATURAL STONE SLAB PAVING SYSTEM (GRANULAR SUB-BASE OVER NEW EXCAVATED SUBGRADE):

- Subgrade improvement layer: May be required in certain areas; contractor to submit any improvement proposals to Structural Engineer prior to commencing work.
 - Compacted thickness: Submit proposals.
- Granular sub-base: Highways Agency Type 1 unbound mixture, as section Q20 .
 - Compacted thickness: Dependent upon specific areas. Submit proposals.
- Base: Concrete as section Q21.
 - Thickness: 100 mm.
- Laying course: Site mixed mortar.
 - Accessories: None.
- Paving units (Yorkstone):
 - Re-used existing as C25/292, C25/317 and Q25/310C.
 - Reclaimed as Q25/308.
 - New stone as Q25/310B.
- Jointing: Site mixed mortar.
 - Bond: To match existing - refer to provision by contractor to control sample for inspection - see below.
- Accessories: n/a.
- Other requirements:
 - Edgings: As section Q10.

113 MANHOLE AND SERVICES/INSPECTION CHAMBERS & OPENINGS

- All manholes covers and service covers are to be recessed and infilled with paving materials to match surrounding paving.
- All raised manhole and service covers as above.

116 NATURAL YORK STONE SLAB PAVING OVERLAY SYSTEM (CONCRETE SLAB WITH WATERPROOFING, INSULATION AND DRAINAGE LAYER):

Note: Refer to architects drawings for details of slab build up. Refer to Landscape Consultant's drawings for typical details.

- Laying course: Sand bedding (TBC).
- Paving units (Yorkstone):

- Re-used existing as C25/292, C25/317 and Q25/310C.
 - Reclaimed as Q25/308.
 - New stone as Q25/310A.
 - Paving units (Granite):
 - Re-used existing as C25/292, C25/317 and Q25/311A.
 - Reclaimed as Q25/309.
 - New stone as Q25/312.
 - Step units (granite):
 - Relaid existing as Q25/311B.
 - Jointing: Mortar.
 - Bond: Bond pattern with granite banding as Q25/622.
 - Accessories:
 - Linear slot drainage system as Q10/175 with drain connections as Drainage Engineer's drawings and specification.
 - Other requirements:
 - Existing granite steps reinstated as Q25/313.
- 140 NATURAL STONE SETT PAVING SYSTEM (CHANNEL):
To form open drainage dish channel in adjacent to grass terraces.
- Subgrade improvement layer: Highways Agency Type 1 unbound mixture, as section Q20 .
 - Compacted thickness: Not applicable.
 - Granular sub-base: Highways Agency Type 1 unbound mixture, as section Q20 .
 - Compacted thickness: 150 mm.
 - Base: Concrete as section Q21.
 - Thickness: 150 mm.
 - Laying course: Site mixed fine concrete .
 - Accessories: None.
 - Paving units: Natural stone setts (TBC).
 - Jointing: Site mixed fine concrete.
 - Bond: 3 courses in stretcher bond .
 - Accessories: None.
- 150 CONCRETE SETT PAVING SYSTEM in New Square
- Subgrade improvement layer: Not required.
 - Compacted thickness: Not applicable.
 - Granular sub-base: Highways Agency Type 1 unbound mixture, as section Q20 or existing. Refer to engineer's Highway requirements.
 - Compacted thickness: see above.
 - Base: see above.
 - Thickness: see above.
 - Laying course: Site mixed mortar.
 - Accessories: None.
 - Paving units: Concrete setts to match existing. Contractor to provide sameple .
 - Jointing: to match existing .
 - Bond: to match existing.
 - Accessories: none.

PRODUCTS

- 212 RE-USED EXISTING RIGID CONCRETE/ BRICK SETT PAVING TO WESTERN SERVICE YARD:
- Drawing reference: 597-15000, 41003
 - Substrate: As existing
 - Bedding: As existing, Mortar Bedded as Q25/300 or Sand as Q25/301 (TBC).
 - Nominal thickness of bed: 25mm. (TBC)
 - Concrete/ Brick Setts: Existing as C25/292 and C25/317A.
 - Finish: As existing
 - Size: As existing
 - Re-dressed thickness: As existing.

- Joints: to match existing as Q25/300 or as Q25/301.
- Bond: As existing
- Grouting Material: as existing
- Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
- Submit proposals.
- Other requirements:
 - Drainage channel Q10/175 as shown on drawings.

300 LAYING CONCRETE SETT PAVING

- Laying: Spread and level a bed of mortar. Individually lay and hammer down the setts so that tops are level, leaving joints open.
- Laying course: as Q25/695.
 - Nominal thickness after compaction: as manufacturer's recommendation.
- Jointing: as Q25/695. Fill joints and finish neatly. Clean mortar from face of setts before it sets.
- Join width (nominal): 5mm - to match existing
 - Recess mortar joints below sett surface by: 2-3mm

301 LAYING CONCRETE SETT PAVING - FINE AGGREGATE BEDDING AND JOINTING

- Laying: to match existing
- Jointing: 10mm - to match existing

305 GRANULAR MATERIAL FOR LAYER OVER EXISTING BASES

- Material: Highways Agency Type 1 unbound mixture, as section Q20

308 RECLAIMED YORKSTONE:

- Samples: Submit.
- Material: Millstone Grit (Namurian series sandstone of the Carboniferous age).
 - Colour: Traditional Yorkstone of uniform light-buff colour with no grey or brown graining.
 - Finish: Smooth (equivalent to diamond sawn).
 - Edges: Square and unchipped.
- Sizes: Of a range to match existing re-used paving; allow for 750 mm width by random length.
 - Thickness: 50 mm (nominal).
- Other requirements: As Q25/310A.

309 RECLAIMED GRANITE:

- Samples: Submit.
- Material: Granite to match existing to East Terrace.
 - Colour: To match existing.
 - Finish: As existing or similar to honed with slip resistance.
 - Edges: Square and unchipped.
- Sizes: As required for geometric paving pattern, as Q25/622.
 - Thickness: 50 mm (nominal).
- Other requirements: As Q25/311A.

310A NEW YORKSTONE SLAB PAVING TO EAST TERRACE AND SOUTH TERRACE:

Rev C1

- Drawing reference: **597-17011, 17012 & 17060.**
- Substrate: Insulation board and dimpled cavity drain membrane over waterproofing on concrete slab.
- Bedding: ~~Sand as Q25/710 (TBC)~~ **Mortar as Q25/715** or as recommended by stone supplier.
 - Nominal thickness of bed: 25mm.
- Stone:
 - Standard: To BS EN 1341.
 - Name (traditional): Yorkstone.
 - Petrological family: Namurian (Millstone Grit) series sandstone of the Carboniferous age.
 - Colour: Light buff; to be uniform with no excessive grey or brown graining.
 - Origin: Wellfield Quarries, Crosland Hill, Huddersfield, West Yorkshire.
 - Finish: *Diamond Sawn* or to match existing (TBC).

Rev C2

- Supplier: Johnson's Wellfield Quarries Ltd (01484 652311)
<http://www.myersgroup.co.uk/jwqe>
www.johnsons-wellfield.co.uk
- Rev C2** Product reference: *Crosland Hill Hard Yorkstone (TBC)*
Size: 1200 x 750 mm (nominal) as shown on drawings to pattern / layout as Q25/622.
- Thickness: 50 mm.
 - Plan dimension deviation class: P2.
 - Diagonal deviation class: D2.
 - Thickness deviation class: T2.
 - Arrises: Square.
 - Breaking strength: Class 2.
 - Slip resistance: PTV to BS 7976-2 of 45.
 - Joints: 5 mm as Q25/715.
- Bond: Staggered or lined through as drawings in geometric pattern with granite.
Grouting Material: Cement/sand mortar.
- Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
 - Submit proposals.
 - Other requirements:
 - Drainage channel Q10/175 as shown on drawings.
 - Coordinate with installation of parasol bases Q50/450 to South Terrace as necessary.
- Rev C1** 310B NEW YORKSTONE SLAB PAVING ON GRANULAR SUB-BASE ~~– LIBRARY EXTENSION:~~
- Drawing reference: 597-**17013 & 17014**
 - Granular sub-base: As Q20/210.
 - Compacted thickness: Dependent upon specific areas. Submit proposals.
 - Base: Concrete as section Q21.
 - Thickness: 100 mm.
 - Laying course: Mortar as Q25/715.
 - Nominal thickness of bed: 25mm.
 - Stone: Yorkstone as Q25/310A.
Size: 1200 x 750 mm (nominal) as shown on drawings.
 - Thickness: 50 mm.
 - Joints: 5 mm as Q25/715.
 - Bond: Staggered as drawings.
 - Edgings Q10/110 as drawings.
 - Grouting Material: Cement/sand mortar.
 - Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone.
 - Submit proposals.
 - Other requirements:
 - Drainage channels Q10/175 as shown on drawings.
- Rev C1** 310C RE-USED EXISTING YORKSTONE SLAB PAVING (**SAWN**):
- Drawing reference: **597-17010, 17011, 17012, 17015 & 17060.**
 - Substrate: As Q25/310A and Q25/310B.
 - Bedding: ~~Sand as Q25/710 (East Terrace)~~ and Mortar as Q25/715 (~~Library Extension~~)
 - Nominal thickness of bed: 25mm.
 - Stone: Existing Yorkstone slabs as C25/292 and C25/317, re-dressed as necessary to suit required size and thickness..
- Rev C1** - Finish: **As existing** - smooth (similar to diamond sawn).
Size: As shown on drawings to pattern / layout as Q25/622.
 - Re-dressed thickness: 50 mm.
- Rev C1** - Joints: 5 mm as Q25/715.
- Bond: As drawings. ~~including geometric pattern with Yorkstone.~~
Grouting Material: Cement/sand mortar.
- Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
 - Submit proposals.

- Rev C1**
- Other requirements:
 - Drainage channels ~~Q10/175~~ as shown on drawings.
 - Coordinate with installation of parasol bases Q50/450 to South Terrace as necessary.
- Rev C2** 310D NATURAL STONE SLABS FOR PEDESTRIAN AREAS - NEW SQUARE:
- **Drawing reference: 597-17010.**
 - **Substrate: As Q25/310A and Q25/310B.**
 - **Bedding: Mortar as Q25/715.**
 - **Nominal thickness of bed: 25mm.**
 - **Stone: Existing Yorkstone slabs taken from the South end of the East Terrace as C25/292 and C25/317, re-dressed as necessary to suit required size and thickness.**
 - **Finish: As existing – smooth (similar to diamond sawn).**
 - Size: As shown on drawings to pattern / layout as Q25/622.**
 - **Re-dressed thickness: 50 mm.**
 - **Joints: 5 mm as Q25/715.**
 - **Bond: As drawings.**
 - **Grouting Material: Cement/sand mortar.**
 - **Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
Submit proposals.**
 - **Other requirements:**
 - **If sufficient quantity stone cannot be recovered from the South end of the East Terrace, please revert to clause Q25/308 for stone reclaimed off-site.**
- ~~Standard: To BS EN 1341.~~
~~Supplier: Contractor's choice.~~
~~Product reference: Submit proposals – Yorkstone paving, new or reclaimed.~~
~~Quarry: Submit proposals.~~
~~Petrographical description/ stone type: York Stone.~~
~~Finish: to match existing.~~
~~Sizes: For paving within the area of New Square, units are to be of uniform sizes to match existing.~~
~~Plan dimension deviation class: P2.~~
~~Diagonal deviation class: D2.~~
~~Thickness deviation class: T2.~~
~~Arrises: Square.~~
~~Breaking strength: Class 2.~~
~~Slip resistance: PTV to BS 7976-2 of 45.~~
~~Skid resistance: No requirement.~~
- Rev C2** 310E **RE-LAID USED EXISTING YORKSTONE SLAB PAVING (RIVEN):**
- Rev C1**
- **Drawing reference: 597-17011 & 17012.**
 - **Substrate: As Q25/310A and Q25/310B.**
 - **Bedding: Mortar as Q25/715.**
 - **Nominal thickness of bed: 25mm.**
 - **Stone: Existing Yorkstone slabs as C25/292 and C25/317, re-dressed as necessary to suit required size and thickness..**
 - **Finish: As existing – Riven.**
 - Size: As shown on drawings to pattern / layout as Q25/622.**
 - **Re-dressed thickness: 50 mm.**
 - **Joints: 5 mm as Q25/715.**
 - **Bond: As drawings.**
 - **Grouting Material: Cement/sand mortar.**
 - **Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
Submit proposals.**
 - **Other requirements:**
 - **Drainage channels as shown on drawings.**

- 311A RE-USED EXISTING GRANITE SLABS **PAVING** TO EAST TERRACE AND SOUTH TERRACE:
- Rev C1**
- Drawing reference: **597-17011, 17012 & 17060.**
 - Substrate: Insulation board and dimpled cavity drain membrane over waterproofing on concrete slab.
- Rev C1**
- Bedding: **Mortar as Q25/715. ~~Sand as Q25/710 (TBC).~~**
 - Nominal thickness of bed: 25mm.
- Rev C1**
- Stone: Existing thick granite slabs as C25/292 and C25/317, sliced horizontally **to suit available terrace deck build-up** and re-dressed. **For required thickness, see below.**
- Rev C1**
- Finish: Honed – **as existing.**
- Rev C1**
- Size: As shown on drawings to pattern / layout as Q25/622.
- Rev C1**
- Re-dressed thickness: **50 mm ~~Varies, as Architect's details.~~**
- Rev C1**
- Joints: 5 mm as Q25/715.
- Rev C1**
- Bond: As drawings. **~~including geometric pattern with Yorkstone.~~**
 - Grouting Material: Cement/sand mortar.
 - Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
 - Submit proposals.
- Rev C1-**
- Other requirements:
 - Balustrade as L30/521C.
 - Drainage channel Q10/175 as shown on drawings.
 - Coordinate with installation of parasol bases Q50/450 to South Terrace as necessary.
- 311B RELAID EXISTING GRANITE STEPS TO EAST TERRACE:
- Rev C1**
- Drawing reference: **597-17011, 17012.**
 - Substrate: Insulation board and dimpled cavity drain membrane over waterproofing on new in-situ concrete stair.
- Rev C1**
- Bedding: Mortar as Q25/715 **(TBC).**
 - Nominal thickness of bed: 25mm.
 - Stone: Existing thick granite step units as C25/292 and C25/317.
 - Finish: Existing.
 - Size: As shown on drawings to pattern / layout as Q25/622.
 - Thickness: 50 mm.
 - Joints: 5 mm as Q25/715.
 - Bond: As drawings.
 - Grouting Material: Cement/sand mortar.
 - Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
 - Submit proposals.
- Rev C1**
- Other requirements:
 - Balustrade as L30/521C.
 - Existing brass eyes for carpet stair rod to be restored / reinstated.
- Rev C1** 311C RE-USED EXISTING GRANITE SLABS - CUT DOWN TO EAST TERRACE:
- **Drawing reference: 597-17012.**
 - **Substrate: Insulation board and dimpled cavity drain membrane over waterproofing on concrete slab**
 - **Bedding: Mortar as Q25/715 (TBC).**
 - **Nominal thickness of bed: 25mm.**
 - **Stone: Existing thick granite slabs as C25/292 and C25/317, sliced horizontally to suit available terrace deck build-up (for required thickness, see below), sliced vertically to suit new plan arrangement (as 597-17012) and re-dressed.**
 - **Finish: Honed – as existing.**
 - **Size: As 597-17012, to pattern / layout as Q25/622.**
 - **Thickness: As Architect's details.**
 - **Joints: 5 mm as Q25/715.**
 - **Bond: As drawings.**
 - **Grouting Material: Cement/sand mortar.**

- **Surface treatment:** Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
Submit proposals.
- **Other requirements:** N/A

312 NEW GRANITE SLAB PAVING TO EAST TERRACE AND SOUTH TERRACE:

Rev C1

- Drawing reference: **597-17011, 17012 & 17060.**
- Substrate: Insulation board and dimpled cavity drain membrane over waterproofing on concrete slab.

Rev C1

- Bedding: ~~Sand as Q25/710 (TBC)~~ **Mortar as Q25/715** or as recommended by stone supplier.
 - Nominal thickness of bed: 25mm.

- Stone:
 - Standard: To BS EN 1341.
 - Name (traditional): Granite.
 - Colour: Grey, to match existing re-used granite as C25/292 and Q25/311B.
 - Origin: Submit proposals.
 - Finish: Honed.

Supplier: Contractor's choice.

Size: As shown on drawings to pattern / layout as Q25/622.

- Thickness: 50 mm.
- Plan dimension deviation class: P2.
- Diagonal deviation class: D2.
- Thickness deviation class: T2.
- Arrises: Square.
- Breaking strength: Class 2.
- Slip resistance: PTV to BS 7976-2 of 45.
- Joints: 5 mm as Q25/715.
- Bond: As drawings in geometric pattern with Yorkstone.
- Grouting Material: Cement/sand mortar.
- Surface treatment: Surface impregnator to protect against moss and algae; must not form a film or alter the natural colour of the stone (TBC).
 - Submit proposals.
- Other requirements:
 - Drainage channel Q10/175 as shown on drawings.
 - Coordinate with installation of parasol bases Q50/450 to South Terrace as necessary.

330 NATURAL STONE SETTS FOR SURFACE DISH CHANNEL

Rev C1

- **Drawing reference: 597-17010.**
- Standard: To BS EN 1342.
- Supplier: Contractor's choice.
 - Product reference: Contractor's choice.
 - Quarry: Contractor's choice.
- Stone type: Granite.

Rev C1 - Finish: Coarse textured **to match existing.**

Rev C1 - Sizes: ~~100 x 100 x 100 mm.~~ **To match existing.**

- Plan dimension and thickness deviation: Class 2.
- Special setts: none.
- Tolerances on undercut of sides: No requirement.
- Tolerances on hewn and coarse textured face irregularities: No requirement.
- Breaking strength: No requirement.
- Slip resistance: PTV to BS 7976-2 of 45.
- Skid resistance: No requirement.
- Surface treatment: None.

335 CONCRETE SETTS TO NEW SQUARE

For drainage channel adjacent to pavement; and to new cycle stand area.

Rev C1

- Drawing reference: **17501**
- Manufacturer: Contractor's choice.
 - Product reference: to match existing.

- Recycled content: Contractor's choice.
 - Colour: to match exist.
 - Finish: to match existing .
 - Sizes: to match existing.
 - Slip/ Skid resistance: PTV to BS 7976-2 of 45.
 - Integral accessories: None.
- 366 GEOTEXTILE SHEET - BELOW LAYING COURSE IN AREA ABOVE PROPOSED UNDERGROUND LIBRARY EXTENSION SLAB
- Manufacturer: Submit proposals.
 - Product reference: Submit proposals.
 - Recycled content: Contractor's choice.
- 376 SAND/ FINE AGGREGATE FOR SITE MIXED MORTAR FOR ALL NEWLY LAID PAVED AREAS
- Standard: To BS EN 12620, designations:
 - Flag and slab paving laying course: to manufacturer's recommendations.
 - Flag and slab paving jointing: to manufacturer's recommendations.
 - Concrete sett paving laying course and jointing: to manufacturer's recommendations.
 - Rigid brick paving laying course and jointing: N/A.
 - Precast concrete and grass or gravel paving: N/A.
- 390 SAND FOR FLEXIBLE LAYING COURSE AND JOINTING OF FLAG PAVING FOR AREAS ABOVE PROPOSED UNDERGROUND LIBRARY EXTENSION.
- Standard: To BS 7533-4, unbound construction laying course and jointing material.
 - Purity: Free from deleterious salts, contaminants, lime and cement.
 - Procurement: Obtain from one source and ensure consistent grading.
- 435 PRIMER FOR UNDERSIDE OF FLAGS AND SLABS
- Scope: As stone supplier's or specialist subcontractor's recommendations.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- 455 JOINT FILLER FOR MOVEMENT JOINTS:
- Scope: As stone suppliers recommendations.
 - Type: Closed cell polyethylene foam compatible with specified sealant.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- 475 CLEANING SOLUTION FOR EXISTING BLOCKS AND SETTS all areas
- Manufacturer: Submit proposals.
 - Product reference: Submit proposals.

OTHER PAVINGS

- 510 PAVING TO MANHOLE COVERS:
- Paving material: All stone types as required.
 - Manhole covers, as Drainage Engineer's specification and Manhole Schedule, to be recessed to suit thickness of paving and bedding.
 - Covers to be positioned perpendicular/parallel to paving patterns.
 - Pattern of paving and alignment of joints to continue through manhole covers.

EXECUTION

- 610 MATERIAL SAMPLES
- Samples representative of colour and appearance of designated materials: Submit before placing orders.

- Designated materials: All pavings.

616 CONTROL SAMPLES

- Sample areas: Complete as part of the finished work.
 - Types of paving:
 - Natural stone slab paving.
 - Natural stone steps.
 - Natural stone sett paving.
 - Location: ALL AREAS.
 - Size (minimum): 3.0 x 3.0 m.
 - Included features:
 - Geometric pattern to East Terrace.
 - Representative sealer/ stabilizer coats, (kerbs, edging, expansion joints, recessed manhole covers, drainage dish channels) .
 - Approval of appearance and surface: Obtain before proceeding.

620 ADVERSE WEATHER

- General:
 - 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.
 - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
 - Stockpiled bedding sand: Protect from saturation.
 - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
 - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
 - Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

REV C1 622 SETTING OUT - GEOMETRIC PATTERN / LAYOUT:

- Location: East Terrace and South Terrace.
- Drawing reference: **597-17011, 17012.**

625 LAYING PAVINGS - GENERAL

- Appearance: Smooth and even with regular joints and accurate to line, level and profile.
- Falls: To prevent ponding.
- Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
- Slopes: Lay paving units upwards from the bottom of slopes.
- Paving units: Free of mortar and sand stains.
- Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 LEVELS OF PAVING

- Permissible deviation from specified levels:
 - Generally: ± 6 mm.
- Height of finished paving above features:
 - At gullies: +6 to +10 mm.
 - At drainage channels and kerbs: +3 to +6 mm.

635 REGULARITY OF PAVED SURFACES

- Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface):
 - Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
 - Precast concrete flags or natural stone slabs: 3 mm.

- Difference in level between adjacent paving units (maximum): 2 mm.
 - Sudden irregularities: Not permitted.
- 640 COLOUR BANDING
- General: Unless premixed by manufacturer, select from at least 5 separate packs in rotation to avoid colour banding.
- 645 PROTECTION
- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
 - Materials storage: Do not overload pavings with stacks of materials.
 - Handling: Do not damage paving unit corners, arrises, or previously laid paving.
 - Mortar-bedded pavings: Keep free from traffic after laying:
 - Pedestrian traffic (minimum): 2 days.
 - Vehicular traffic (minimum): 7 days.
 - Access: Restrict access to paved areas to prevent damage from site traffic and plant.
- 650 CEMENTITIOUS BASES AND SUB-BASES
- General: Protect from moisture loss, if not covered by another pavement course within 2 hours of completion.
- 655 CONDITION OF SUB-BASES/ BASES BEFORE SPREADING LAYING COURSE
- Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
 - Granular surfaces: Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
 - Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
 - Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
 - Levels and falls: Accurate and within the specified tolerances.
 - Drainage outlets: Within 0-10 mm of the required finished level.
 - Features in sand bedded paving (including mortar-bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
 - Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.
- 665 PLANING AND REPAIRS TO EXISTING BASES
- Existing macadam/ asphalt surfaces: Plane to required levels.
 - Repairs: Cut out to remove ruts and cracks over 25 mm wide and Cut out depressions, fill to match existing surface and compact..
 - Building up existing surfaces to required levels: refer to engineer's requirements..
- 670 LAYING GRANULAR LAYER OVER EXISTING BASES
- Thickness: 150 mm.
 - Compaction: Laying granular sub-bases for pedestrian areas, as section Q20.
 - Blinding: As section Q20.
- 686 LAYING GEOTEXTILE SHEET OVERLAYS FOR ABOVE UNDERGROUND LIBRARY EXTENSION SLAB
- Location: Immediately below sand bedding course.
 - Laying: Fit neatly at edge restraints and other features that interrupt sand bedding course, e.g. drainage fittings, channels, manholes and kerbs.
 - Edge detail: Turn sheet up to form an upstand against features, height not less than thickness of sand bedding.
 - Jointing: Lap by 300 mm.
- 690 RECLAIMED NATURAL STONE SLABS
- Location/ Access: All areas.
 - Lifting/ Storage/ Protection: Store in a secure compound.

- Preparation: Submit samples of cleaned slabs.
- 695 SITE MIXED MORTAR FOR ALL RIGID PAVING SETT AND KERBS/EDGING
- Mix: 1:3 cement:sand.
 - Consistency: Workable.
 - Admixtures: None.
- 700 SITE MIXED FINE CONCRETE TO ALL AREAS
- Standard: In accordance with BS 7533-7.
- 710 LAYING FLAG AND SLAB PAVING - SAND LAYING COURSE AND JOINTING
- Standard: In accordance with BS 7533-4.
 - Flag installation and cutting: To Interpave 'Concrete flag paving'.
 - Laying course:
 - Nominal thickness after compaction: 25 mm.
 - Joint width (nominal): 5 mm.
- 715 LAYING FLAG AND SLAB PAVING - MORTAR LAYING COURSE AND JOINTING
- Standard generally: In accordance with BS 7533-4.
 - Flag installation and cutting: To Interpave 'Concrete flag paving'.
 - Laying course:
 - Nominal thickness: 25 mm after compaction.
 - Laying and jointing: none.
 - Joint width (nominal): 5 mm.
- 730 LAYING NATURAL STONE SETT PAVING
- Standard generally: In accordance with BS 7533-7.
 - Laying type: Rigid.
 - Laying and jointing method: Contractor's choice.
 - Laying course:
 - Target thickness after compaction: 40 mm.
 - Joint width (nominal): 8 mm.
- 785 TOOLED JOINTS IN MORTAR-BEDDED UNITS
- Joints: Completely filled with bedding mortar as work proceeds.
 - Joint width: 5 mm.
 - Finish: Neat flush profile.
- 795 SEALANT MOVEMENT JOINTS IN PAVING:
- Location: Junction to perimeter building façades, etc. as drawings.
 - Include joints as recommended by paving manufacturer, extending through haunching.
 - Joint filler: Closed cell polyethylene foam compatible with the specified sealant. Build in as the work proceeds.
Joint width 10 mm.
 - Barrier (joint breaker): As recommended by sealant manufacturer.
 - Position filler and barrier accurately to fully support sealant at the recommended distance from exposed faces of units.
 - Sealant: Adshead Ratcliffe
www.arbo.co.uk
Arbokol AG2.
Colour: Grey (TBC).
 - Primer. As manufacturer's recommendations for stone paving.
 - Application: As section Z22.
 - Special requirements: Sealant manufacturer to confirm that sealant will not stain stone paving slabs due to leeching of oils, etc.
- 805 CLEANING EXISTING BLOCKS AND SETTS
- Area: All Yorkstone and granite edged areas.
 - Application:

- Method: High pressure water washer and To cleaning solution manufacturer's recommendations.
- Dosage: As cleaning solution manufacturer's recommendations.
- Sand jointed paving: Do not displace jointing sand during cleaning process.

COMPLETION

930 SLIP RESISTANCE TESTING

- Surfaces to be tested: All pedestrian paved areas.
- Surface condition: Dry and wet .
- Timing: As agreed with contract administrator.
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976.
 - Testing authority: A UKAS accredited laboratory.
 - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Architect.
 - Report: Submit.
 - Format: As required under BS 7976.