**SECTION 12**

**SEGMENTAL PAVING**

**CONTENTS**

<table>
<thead>
<tr>
<th>12</th>
<th>SEGMENTAL PAVING</th>
<th>12-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.01</td>
<td>SCOPE</td>
<td>12-2</td>
</tr>
<tr>
<td>12.02</td>
<td>DEFINITIONS</td>
<td>12-2</td>
</tr>
<tr>
<td>12.03</td>
<td>STANDARDS</td>
<td>12-3</td>
</tr>
<tr>
<td>12.04</td>
<td>MATERIALS</td>
<td>12-4</td>
</tr>
<tr>
<td>12.04.1</td>
<td>Fired Clay Paving Units</td>
<td>12-4</td>
</tr>
<tr>
<td>12.04.2</td>
<td>Concrete Paving Units</td>
<td>12-6</td>
</tr>
<tr>
<td>12.04.3</td>
<td>Granular Base and Subbase</td>
<td>12-9</td>
</tr>
<tr>
<td>12.04.4</td>
<td>Bedding Sand</td>
<td>12-9</td>
</tr>
<tr>
<td>12.04.5</td>
<td>Jointing Sand</td>
<td>12-10</td>
</tr>
<tr>
<td>12.04.6</td>
<td>Expansion Jointing</td>
<td>12-10</td>
</tr>
<tr>
<td>12.04.7</td>
<td>Bedding Mortar for Pavers</td>
<td>12-10</td>
</tr>
<tr>
<td>12.05</td>
<td>EARTHWORKS AND SUBGRADE PREPARATION</td>
<td>12-11</td>
</tr>
<tr>
<td>12.06</td>
<td>BASE AND SUBBASE LAYERS</td>
<td>12-11</td>
</tr>
<tr>
<td>12.07</td>
<td>BEDDING</td>
<td>12-11</td>
</tr>
<tr>
<td>12.07.1</td>
<td>Preparation of Bedding Sand</td>
<td>12-11</td>
</tr>
<tr>
<td>12.07.2</td>
<td>Screeding</td>
<td>12-11</td>
</tr>
<tr>
<td>12.07.3</td>
<td>Laying and Finishing</td>
<td>12-12</td>
</tr>
<tr>
<td>12.07.4</td>
<td>Jointing</td>
<td>12-13</td>
</tr>
<tr>
<td>12.07.5</td>
<td>Edge Restraints</td>
<td>12-13</td>
</tr>
<tr>
<td>12.07.6</td>
<td>Opening to Traffic</td>
<td>12-13</td>
</tr>
<tr>
<td>12.08</td>
<td>CONFORMANCE CRITERIA</td>
<td>12-14</td>
</tr>
<tr>
<td>12.08.1</td>
<td>Tolerances on Levels and Grades</td>
<td>12-14</td>
</tr>
<tr>
<td>12.08.2</td>
<td>Sampling and Testing</td>
<td>12-14</td>
</tr>
<tr>
<td>12.08.3</td>
<td>Frequency of Testing</td>
<td>12-14</td>
</tr>
<tr>
<td>12.08.4</td>
<td>Nonconforming work</td>
<td>12-15</td>
</tr>
<tr>
<td>12.09</td>
<td>MEASUREMENT AND PAYMENT</td>
<td>12-16</td>
</tr>
<tr>
<td>12.10</td>
<td>SCHEDULE OF HOLD POINTS</td>
<td>12-16</td>
</tr>
</tbody>
</table>
12 SEGMENTAL PAVING

12.01 SCOPE

The works covered by this Section of the Specification comprise the construction of segmental pavements for pedestrian and vehicular traffic using clay and concrete paving units.

Segmental Paving shall include precast concrete paving, tactile paving, porphyry stone paving and porphyry setts paving.

12.02 DEFINITIONS

For the purpose of this Section of the Specification, the following definitions apply:

Net Area - The plan area of the top surface of the paving unit bounded by the chamfer or radius.

Concrete paving units, pavers or blocks are units of not more than 0.10 square metres in gross plan area, manufactured from concrete, with plain or dentated sides, with top and bottom faces parallel and with or without chamfered edges.

Concrete paving units are identified by shape as being one of the following types:

(i) **Shape Type A**
Dentated chamfered units which key into each other on four sides, are capable of being laid in herringbone bond, and by their plan geometry, when interlocked, resist the spread of joints parallel to both the longitudinal and transverse axes of the units.

(ii) **Shape Type B**
Dentated units which key into each other on two sides, are not (usually) laid in herringbone bond, and by their plan geometry, when keyed together, resist the spread of joints parallel to the longitudinal axes of the units and rely on their dimensional accuracy and accuracy of laying to interlock on the other faces.

(iii) **Shape Type C**
Units which do not key together and which rely on their dimensional accuracy and accuracy of laying to develop interlock.

Clay paving units, pavers or blocks are manufactured from clay, shale or argillaceous materials which may be mixed with additives.

Clay paving units, pavers or blocks may have square, bevelled (chamfered), rounded or rumbled edges. They are generally rectangular in shape, with the length twice the width, plus 2mm.

Clay pavers are classified as either Class 1, 2, 3 or 4 according to their intended application, with increasing performance requirements (and thickness) from Class 1 to Class 4.

Laying patterns of pavers are identified as being either Herringbone, Basket-weave, or Stretcher as shown following. Each of these may be laid at either 90° or 45° to the line of edge restraints. A variation of Stretcher is the Zig Zag Running Bond, also shown in Figure 12.1.
Figure 12.1 – Paver laying patterns

- Stretcher
- Zig Zag Running Bond
- Herringbone
- Basketweave

12.03 STANDARDS

Australian Standards

- AS 1428.2: Design for access and mobility – Enhanced additional requirements – Buildings and facilities.
- AS 1428.4: Design for access and mobility - Tactile ground surface indicators for the orientation of people with vision impairment.
- AS 1478.1: Chemical admixtures for concrete, mortar and grout - Admixtures for concrete
- AS 1672.1: Limes and limestones - Limes for building
- AS 2349: Method of sampling portland and blended cements
- AS 2350: Methods of testing portland and blended cements
- AS 2758.1: Aggregates and rock for engineering purposes - Concrete aggregates
- AS 3582.1: Supplementary cementitious materials for use with portland and blended cement - Fly ash
- AS 3583.1: Methods of test for supplementary cementitious materials for use with portland and blended cement. Determination of fineness by the 45 micrometre sieve.
- AS 3583.2: Methods of test for supplementary cementitious materials for use with portland and blended cement. Determination of moisture content.
- AS 3583.3: Methods of test for supplementary cementitious materials for use with portland and blended cement. Determination of loss on ignition.
12.04 MATERIALS

12.04.1 Fired Clay Paving Units

Clay paving units shall be manufactured from clay, shale or other argillaceous materials which may be mixed with additives. They shall be solid units, pressed or extruded, cut or moulded then dried and fired to achieve the specified properties, dimensions and edge treatment. Clay segmental pavers shall comply with the requirements of AS 4455.

Recycled pavers may be used, provided they meet all the criteria set out in this section.
(i) Sampling

Sampling for clay paving units shall be carried out in accordance with AS 4456.1. For the purpose of sampling in accordance with AS 4456.1 a lot is defined as maximum 1000 m$^2$ of paving in gross plan area for each paver type and/or manufacturer.

(ii) Samples

Submit two samples of each different type and/or source of paving for approval by the Superintendent prior to ordering. Samples to be indicative of the paver to be supplied for each different type of paving.

(iii) Dimensional Tolerances

Dimensional tolerances shall be in accordance with Table 12.1 for each class of pavement.

(iv) Breaking Load

When measured in accordance with ASNZ 4456.5, the characteristic breaking load of segmental paving units shall be as shown in Table 12.1. Slip/Skid Resistance

(v) Slip/Skid Resistance

Slip resistance shall be as shown in Table 12.1 and determined in accordance with AS/NZS 3661.1.

(vi) Resistance to Salt Attack

Paving units shall have a durability class of Exposure as defined in AS 4456.10.

(vii) Pitting Due to Lime

When tested in accordance with AS4456.13, the liability of clay paving units to pitting due to the expansion of lime particles shall not be worse than Moderate as defined by AS4456.13.

(viii) Abrasion Resistance

Abrasion resistance shall be as shown in Table 12.1 and determined in accordance with AS 4456.9.

(ix) Surface Coatings

Surface coatings shall not be applied to clay paving units without the prior written approval of the Superintendent.

(x) Appearance

Clay paving units shall be sound, firm, dense, free of distortion, dimensionally stable and consistent, with a smooth upper surface and with unrumbled units having unbroken arrises, chamfered or radiused as specified evenly all round. Units which exhibit cracking, bloating or are considered by the Superintendent to be excessively porous, brittle or friable shall be liable to rejection. Paving unit colours shall fall within the colour range of the approved sample units over the full area of the pavement.

(xi) Laying Pattern

Unless otherwise specified, clay pavers for road pavements shall be Class 4, minimum 65mm nominal thickness, and placed in herringbone laying pattern.
12.04.2 Concrete Paving Units

Except as modified by this Section of the Specification, the materials and manufacture of concrete paving units shall comply with the requirements of Section 15 of this Specification and AS 4455.

Recycled pavers may be used, provided they meet all the criteria set out in this section.

(i) Cement
Cement shall comply with AS 3972. Colour shall be added to achieve the desired paver colour.

(ii) Lime
Lime shall comply with AS 1672.1.

(iii) Fly Ash
Fly ash shall comply with and used in accordance with AS 3582.1.

(iv) Pigments
Pigments shall comply with British Standards BS EN 12878.

(v) Aggregate
Aggregate shall comply with AS 2758.1

(vi) Water
Water shall be free from injurious quantities of material harmful to concrete.

(vii) Admixtures
Any chemical admixtures used in the concrete shall comply with AS 1478.1.

(viii) Tolerances on Dimensions
Tolerances on dimension of concrete paving units shall be as shown in Table 12.1. Dimensions and assessment of mean and standard deviation shall be determined in accordance with AS 4456.2 and AS 4456.3.

(ix) Slip/Skid Resistance
Slip resistance shall be as shown in Table 12.1 and determined in accordance with AS 3661.1.

(x) Abrasion Resistance
Abrasion resistance shall be as shown in Table 12.1 and determined in accordance with AS 4456.9.

(xi) Net Area
The net area of any paving unit shall not be less than 75% of the gross plan area.

(xii) Flexural Strength
When measured in accordance with AS 4456.5, the characteristic flexural strength of segmental paving units shall be as shown in Table 12.1.
(xiii) **Breaking Load**
When measured in accordance with AS 4456.5, the characteristic breaking load of segmental paving units shall be as shown in Table 12.1.

(xiv) **Sampling**
Sampling for compliance testing shall be in accordance with AS 4456.1. For the purpose of sampling in accordance with AS 4456.1 a lot is defined as maximum 1000m² of paving in gross plan area for each paver type and/or manufacturer.

(xv) **Appearance**
Concrete paving units shall be sound, firm, dense, dimensionally stable and consistent, with a smooth unblemished upper surface and with unrumbled units having unbroken arrises, chamfered or radiused as specified evenly all round. Units which exhibit cracking, "boniness" or are considered by the Superintendent to be excessively porous, brittle or friable shall be liable to rejection. Paving unit colours shall be uniform and shall match that of approved sample units over the full area of the pavement.

(xvi) **Production**
Paving units shall be mechanically vibrated in separate moulds and retained within the mould for 24hrs before stripping. Concrete shall be constantly cured.

(xvii) **Samples**
Submit two samples of each different type and source of paving for approval by the Superintendent prior to ordering. Samples to be indicative of the paver to be supplied for each different type of paving.

(xviii) **Laying Pattern**
Unless otherwise specified, concrete pavers for road pavements shall be placed in a herringbone laying pattern and shall be in accordance with the requirements for the appropriate road application as shown in Table 12.1.

(xix) **Tactile Indicator Tiles**
Tactile indicator tiles are to be in accordance with AS 1428.2 and AS 1428.4. Tiles are to be precast concrete slightly lighter in colour than the main paving tiles material but with required raised dot and ridge patterns.
### Table 12.1

<table>
<thead>
<tr>
<th>Application</th>
<th>Characteristic breaking load (kN)</th>
<th>Characteristic flexural strength (MPa)</th>
<th>Min Thickness (mm)</th>
<th>Shape (type)</th>
<th>Dimensional deviations (Category from AS 4455)</th>
<th>Slip resistance (coefficient of friction)</th>
<th>Abrasion resistance (mean abrasion index)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Driveways</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>5</td>
<td>2</td>
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<td>Any</td>
<td>DPA1 or DPB1</td>
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<td>7</td>
</tr>
<tr>
<td>Industrial (i)</td>
<td>5</td>
<td>3</td>
<td>No limit</td>
<td>Any</td>
<td>DPA1 or DPB1</td>
<td>0.4</td>
<td>7</td>
</tr>
<tr>
<td><strong>Public Footpaths</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Volume</td>
<td>3</td>
<td>3</td>
<td>No limit</td>
<td>Any</td>
<td>DPB2</td>
<td>0.4</td>
<td>5</td>
</tr>
<tr>
<td>High Volume (ii)</td>
<td>5</td>
<td>3</td>
<td>No limit</td>
<td>Any</td>
<td>DPB2</td>
<td>0.4</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Roads - Traffic Categories (TC) (iv)</strong></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Minor TC 2d</td>
<td>5</td>
<td>3</td>
<td>80</td>
<td>Any</td>
<td>DPB2</td>
<td>0.4</td>
<td>5</td>
</tr>
<tr>
<td>Collector TC 2c</td>
<td>5</td>
<td>3</td>
<td>80</td>
<td>A</td>
<td>DPB2</td>
<td>0.4</td>
<td>5</td>
</tr>
<tr>
<td>Industrial Pavements (iii)</td>
<td>10</td>
<td>4</td>
<td>80</td>
<td>A</td>
<td>DPB3</td>
<td>0.4</td>
<td>7</td>
</tr>
</tbody>
</table>

**Notes on Table 12.1**

(i) Capable of taking occasional 8.2t axle loads.

(ii) The resultant joint width is a combination of paver dimensional deviation and laying procedures.

(iii) At 28 days for Concrete paving units.

(iv) Traffic Categories (TC) as defined in Clause 4.03.1 and Table 4.1.
## Hold Point 12.1

**Process Held:** Commencement of paver placement.

**Submission Details:** At least five (5) working days prior to ordering segmental paving units the Contractor shall submit two samples of each paver type and test results for each paver type stating source of paver and demonstrating conformance to Table 12.1.

**Release of Hold Point:** The Superintendent will examine each paver type and associated documentation prior to authorising the release of the Hold Point.

### 12.04.3 Granular Base and Subbase

Base and subbase materials shall comply with the requirements of Section 4 of this Specification.

### 12.04.4 Bedding Sand

Bedding material shall be clean washed sand of a grading complying with the limits prescribed in Table 12.2.

<table>
<thead>
<tr>
<th>AS Sieve Size (mm)</th>
<th>Percentage Passing by Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.500</td>
<td>100</td>
</tr>
<tr>
<td>4.750</td>
<td>95-100</td>
</tr>
<tr>
<td>2.360</td>
<td>80-100</td>
</tr>
<tr>
<td>1.180</td>
<td>50-85</td>
</tr>
<tr>
<td>0.600</td>
<td>25-60</td>
</tr>
<tr>
<td>0.300</td>
<td>10-30</td>
</tr>
<tr>
<td>0.150</td>
<td>5-15</td>
</tr>
<tr>
<td>0.075</td>
<td>0-10</td>
</tr>
</tbody>
</table>

Bedding sand shall be non-plastic and shall be free of deleterious quantities of soluble salts and other contaminants which may cause, or contribute to efflorescence.

Bedding sand shall be of uniform moisture content when spread. It shall be covered when stored on site to protect it from rain penetration.

Where cement stabilised bedding is specified, 4% to 6% of cement by volume is to be thoroughly and evenly mixed in with the bedding sand prior to spreading. The volume of mixed material shall not exceed that required
for the area of paving units to be laid in a period of 4 hours. Adequate precautions shall be taken to protect the sand-cement mixture from adverse weather conditions.

12.04.5 Jointing Sand

Material for filling unbound joints shall be sand of a grading complying with the limits given in Table 12.3.

<table>
<thead>
<tr>
<th>AS Sieve Size (mm)</th>
<th>Percentage Passing by Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.36</td>
<td>100</td>
</tr>
<tr>
<td>1.18</td>
<td>90-100</td>
</tr>
<tr>
<td>0.60</td>
<td>60-90</td>
</tr>
<tr>
<td>0.30</td>
<td>30-60</td>
</tr>
<tr>
<td>0.15</td>
<td>15-30</td>
</tr>
<tr>
<td>0.075</td>
<td>5-10</td>
</tr>
</tbody>
</table>

Jointing sand shall be free of deleterious quantities of soluble salts and other contaminants which would cause surface staining.

Jointing sand shall be dry when spread. It shall be covered when stored on site to protect it from rain penetration.

Sand used for bedding is not suitable for joint filling.

12.04.6 Expansion Jointing

Expansion joint material shall be 10mm thick self-expanding cork filler complying with the requirements specified in Table 5.8 of this Specification unless specified otherwise. The jointing material shall be of a width equal to the paving units against which it is to be laid.

12.04.7 Bedding Mortar for Pavers

Bedding mortar shall be properly mixed mixture of 1 part cement and 3 parts sand with sufficient water for total hydration of the cement to occur. A mixture of washed sand and fatty sand or fatty sand only may be used depending on the laying technique proposed. If only washed sand is proposed to be used the Contractor shall take other precautions to ensure adhesion of the pavers to the slab. The proposed mortar mixture (and details of the laying technique) shall be submitted to the Superintendent for approval at least 14 days prior to commencement of laying of pavers.

The volume of mixed mortar bedding shall not exceed that required for the area of paving units to be laid in a period of 2 hours. Adequate precautions shall be taken to protect the mortar from adverse weather conditions.
12.05 EARTHWORKS AND SUBGRADE PREPARATION

Earthworks and subgrade preparation shall be carried out in accordance with the requirements of Section 2 of this Specification.

Where tree root control measures have been specified, spread approved root control granules containing dichlofenil at the rate of 1kg per cubic metre of soil. Mechanically till the subgrade and chemical to provide an intimate mixture to a minimum depth of 100mm.

12.06 BASE AND SUBBASE LAYERS

Base and subbase pavement layers shall be constructed in accordance with the requirements of Section 4 of this Specification, and tolerances on levels shall be such that the finished pavement complies with the requirements of Clause 12.08.1.

Lean mix concrete base shall be constructed in accordance with the requirements of Section 5 of this Specification.

12.07 BEDDING

12.07.1 Preparation of Bedding Sand

Sand shall have a uniform moisture content in the range 4% - 8% when spread. The sand bedding shall be spread loose in a uniform layer. The depth shall be determined by on site trials prior to spreading and shall be such that after compaction, a thickness of 25mm, ± 5mm is achieved. Under no circumstances shall bedding be used for levelling.

12.07.2 Screeding

The spread sand shall be carefully maintained in a loose condition and protected against pre-compaction from any cause, including rain, both prior to and following screeding. Any pre-compacted sand or screeded sand left overnight shall be removed and replaced.

For the manual placing of paving units, the bedding sand shall be maintained at a uniform loose density. For mechanised laying, the bedding sand shall be uniformly and firmly, but not fully, compacted.

Following spreading, the sand shall be lightly screeded to the pre-determined loose depth only slightly ahead of the laying of the paving units. Under no circumstances shall sand be screeded in advance of laying to an extent to which paving will not be completed on that day.

Any depressions in the screeding sand exceeding 5mm shall be loosened, raked and rescreened before laying pavers.
Hold Point 12.2

<table>
<thead>
<tr>
<th>Process Held:</th>
<th>Commencement of bedding sand placement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission Details:</td>
<td>At least one (1) working day prior to proposed placement of bedding sand, the Contractor shall submit all test / survey results demonstrating conformance of material properties of base, subbase and sand, and compaction and level for base and subbase layers.</td>
</tr>
<tr>
<td>Release of Hold Point:</td>
<td>The Superintendent will consider the submitted documents and may carry out surveillance and audit, prior to authorising the release of the Hold Point.</td>
</tr>
</tbody>
</table>

12.07.3 Laying and Finishing

Install pavers on the screeded sand bed in the location, pattern and detail as indicated on the drawings. Neatly diamond saw cut pavers as necessary adjacent to edges, lights, manholes etc. Maintain constant bond with joint widths typically 2mm unless noted otherwise. Paving units shall be laid with 2mm to 5mm gaps between adjacent units such that jointing sand will readily penetrate to the full depth of the paving units. All joints shall be correctly aligned and no contact shall exist between adjacent paving units. The pavers shall be mixed between various pallets to ensure that any colour variation from one pallet of pavers to the next is evenly distributed over the entire paved area.

The first row of units shall abut against an edge restraint with the required joint gap, and shall be laid at a suitable angle to the edge restraint to achieve the required visual orientation of paving units in the completed pavement.

In each row, all full units shall be laid first.

Closure units shall be cut and fitted subsequently. Such closure units shall consist of not less than 25% of a full unit.

All units are to be cut using a power diamond saw unless prior written approval is obtained from the Superintendent for the use of other means of cutting.

Infill spaces between 25mm and 50mm wide with 32MPa concrete with a maximum aggregate size of 10mm. Dry packed mortar may be used to infill smaller spaces. In all cases, the infill is to extend for the full depth of the adjoining paving units. Concrete and mortar shall be coloured to match the paving units, with due allowance being made for the effects of weathering.

Access chambers, drainage gullies and similar penetrations through the pavement shall be finished against the paving with a concrete surround or apron designed to suit and fit the laying pattern, otherwise complying with the requirements for edge restraints.

Where pavers are placed over an isolation, contraction or expansion joint in an underlying concrete pavement, a joint is to be provided in the pavers. The joint shall consist of 10mm thick preformed jointing material of bituminous fibreboard.

On completion of subsequent bedding compaction and joint filling operations, all joints shall have widths within the range 2-4mm.
Construction traffic on paving prior to mechanical compaction shall be limited to foot or barrow traffic using overlay boards to prevent disturbance to underlying units.

After laying, mechanically compact the area using a high frequency, low amplitude flat plate compactor having a minimum plate area of 0.25m$^2$ and an energy output sufficient to compact the bedding sand beneath the paving units. The compactor shall be fitted with an approved roller attachment or a section of carpet securely fitted to the underside of the plate to prevent damage to the surface of the paving units.

Initial compaction shall consist of at least two coverages of the area, but shall continue until level differences between units has been eliminated. Do not compact within 1 metre of the working face.

Any units which are structurally damaged during bedding compaction shall be removed and replaced. The pavement shall then be recompacted for at least one metre surrounding each replacement unit.

After initial compaction, spread jointing sand over the finished surface in a thin layer and apply further coverage of the compactor to induce the sand into the joints. After compaction, ensure that all spaces between paving units are filled with jointing sand by brooming as necessary.

For road pavements or where specified, additional compaction shall then be carried out using between 5 and 10 passes of a pneumatic tyred roller or its equivalent, having a gross weight of not less than 10 tonnes.

Remove surplus sand and thoroughly clean the finished surface of mortar stains and the like on completion.

12.07.4 Jointing

Expansion jointing material shall be pressed firmly against the clean face of the adjoining restraint and paving units pushed firmly against the jointing to prevent intrusion of stones and other contaminants.

12.07.5 Edge Restraints

Concrete edge restraints shall be constructed in accordance with Section 6 of this Specification.

Mortared brick or paver unit edging or header courses shall be set on a 100mm minimum thickness bed of cement mortar. Jointing and bed mortar shall be made from 4 parts sand to 1 part cement and mixed thoroughly with the correct amount of water. Thoroughly clean all areas of stains, mortar droppings and the like.

Faces of edge restraints abutting pavers shall be vertical.

Unless otherwise shown on the Drawings, contraction joints, 20mm depth shall be formed every 5m of edge restraint length.

After the concrete has hardened and not earlier than three days after placing, unless otherwise directed by the Superintendent the spaces at the back of the edge restraint shall be backfilled with earth, compacted in layers not greater than 150mm thick, then topsoiled to meet surrounding of design levels.

12.07.6 Opening to Traffic

As soon as practicable after the filling of joints, construction vehicles may use the pavement, and should be encouraged to traverse the greatest possible area of pavement to assist in the development of ‘lock-up’. Traffic shall be guided so as not to pass within a distance of 1 metre of the working face or other unrestrained edge.

Excess joint filling sand shall be removed prior to opening of traffic.

The pavement shall be inspected regularly by the Contractor during the Defects Liability Period to ensure all joints remain completely filled.
12.08 CONFORMANCE CRITERIA

12.08.1 Tolerances on Levels and Grades

The finished surface of completed paving shall be within ± 10mm of design level at all points.

The level on the finished surface of the base course for road pavements to be overlain with segmental paving shall be trimmed within + 10mm or - 0mm of design levels.

Changes of grade both longitudinally and transversely shall be eased over to avoid protruberance of adjoining units. The minimum length of ease shall be 3 unit lengths. Subject to easing constraints, the surface shall not deviate more than 5mm from a 3 metre straight edge. Sand bedding material shall not be used as a levelling material to compensate for base finishing outside the above tolerances.

Paving abutting a gutter to which it drains shall be laid to finish 4-6mm above the edge of the gutter. Other paving edges shall be laid to finish within -0mm to +2mm of the level of abutting paving or structures.

The difference in level (lipping) between adjacent paving units shall not be more than 2mm. The finished surface of the base material shall drain freely without ponding.

12.08.2 Sampling and Testing

All sampling and testing of materials supplied and work carried out under this section of the Specification shall be performed in accordance with the relevant Australian Standards or as otherwise specified.

Work under this Specification shall be subdivided into lots or discrete work areas. The Superintendent shall have the right to reject a lot which is visually non-homogeneous and/or non-representative.

The specified testing shall be taken at the random test locations established in each lot in accordance with the specified minimum testing frequency in Clause 12.08.3.

The test/s then taken shall be considered to represent the total volume of material placed within the lot.

12.08.3 Frequency of Testing

The frequency of testing shall be appropriate to verify conformance and shall not be less than that stated in Table 12.5. Where no minimum frequency of inspection or testing is stated, the Contractor shall nominate appropriate frequencies in their Inspection and Test Plan(s).

The Contractor shall include in the management review of the Quality System, a review of the appropriateness of the frequency of testing nominated in the Inspection and Test Plan(s). Such review shall take into account the frequency of nonconformance detected, including nonconformance remedied by simple reworking.
<table>
<thead>
<tr>
<th>Clause</th>
<th>Characteristic Analysed</th>
<th>Test Method</th>
<th>Minimum Frequency Of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.04</td>
<td>Compressive Strength:</td>
<td>AS 4456.3</td>
<td>One per Contract each type or 1 per lot (1000m²)</td>
</tr>
<tr>
<td>12.04</td>
<td>Breaking Load and Flexural Strength</td>
<td>AS 4456.5</td>
<td>One per Contract each type or 1 per lot (1000m²)</td>
</tr>
<tr>
<td>12.04</td>
<td>Abrasion resistance</td>
<td>AS 4456.9</td>
<td>One per Contract each type or 1 per lot (1000m²)</td>
</tr>
<tr>
<td>12.04</td>
<td>Slip / skid resistance</td>
<td>AS 3661.1</td>
<td>One per Contract each type or 1 per lot (1000m²)</td>
</tr>
<tr>
<td>12.07.6</td>
<td>Level tolerance</td>
<td>Survey</td>
<td>Every 20 square metres</td>
</tr>
<tr>
<td>12.07.6</td>
<td>Surface profile</td>
<td>Deviation from 3m Straight Edge</td>
<td>10 per 200m²</td>
</tr>
<tr>
<td>12.07.3</td>
<td>Jointing</td>
<td>Measure</td>
<td>All joints</td>
</tr>
</tbody>
</table>

**Bedding Sand**

<table>
<thead>
<tr>
<th>Clause</th>
<th>Characteristic Analysed</th>
<th>Test Method</th>
<th>Minimum Frequency Of Testing</th>
<th>Jointing Sand:</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.04.4</td>
<td>Particle size distribution;</td>
<td>AS 1141.11</td>
<td>One per Contract or change in material</td>
<td></td>
</tr>
<tr>
<td>12.04.5</td>
<td>Particle size distribution;</td>
<td>AS 1141.11</td>
<td>One per Contract or change in material</td>
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</tbody>
</table>

**Base Surface**

<table>
<thead>
<tr>
<th>Clause</th>
<th>Characteristic Analysed</th>
<th>Test Method</th>
<th>Minimum Frequency Of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.07.6</td>
<td>Level tolerance</td>
<td>Survey</td>
<td>Every 20 square metres</td>
</tr>
<tr>
<td>12.07.6</td>
<td>Surface profile</td>
<td>Deviation from 3m Straight Edge</td>
<td>10 per 200m²</td>
</tr>
</tbody>
</table>

**12.08.4 Nonconforming work**

A nonconformance report shall be submitted to the Superintendent for any nonconformance detected. Work shall not proceed on any nonconforming item until the Superintendent has approved the disposition for the nonconformance.
SECTION 12
SEGMENTAL PAVING

12.09  MEASUREMENT AND PAYMENT

Payment shall be made for the activities associated with completing the work detailed in this Specification in accordance with Pay Items 1200P1 and 1207P1 inclusive.

The pay items applicable to particular activities are listed in the Specifications for these activities.

A lump sum price for any of these items shall not be accepted.

If any item for which a quantity of work is listed in the Contract has not been priced by the Contractor, it shall be understood that due allowance has been made in the prices of other items for the cost of the activity which has not been priced.

The Contractor shall allow in the pay items generally for the costs associated with all testing required to prove conformance of the works as specified.

Excavation and preparation of subgrade is measured and paid in accordance with Section 2 of this Specification.

Subbase and base materials are measured and paid in accordance with Section 4 of this Specification.

Kerb and/or gutter and miscellaneous minor concrete work not included in the pay items are measured and paid in accordance with Section 6 of this Specification.

Pay Item 1200P1  Segmental Paving

The unit of measurement shall be on a plan area basis by type of pavement surface. The measurement of this item is by gross area including manhole / pit covers.

This pay item shall include all setting out, supply of bedding mortar or sand, jointing sand supply, laying, cutting pavers at interfaces with different pavement types, structures, posts etc., vibration and compaction as required.

1200P1.1  Segmental Paving – Road Pavements
1200P1.2  Segmental Paving – Other Than Road Pavements
1200P1.3  Tactile Pavers (Type A)
1200P1.4  Tactile Pavers (Type B)

Pay Item 1207P1  Edge Strips

The unit of measurement shall be the linear metre measured along the length of the edge strip.

This pay item shall include all activities involved in the excavation forming, concreting, contraction joints, backfilling and compaction adjacent to the completed edge strip.

12.10  SCHEDULE OF HOLD POINTS

<table>
<thead>
<tr>
<th>Hold Points</th>
<th>Clause</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1</td>
<td>12.04.1,</td>
<td>Paver samples and conformance testing</td>
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<tr>
<td></td>
<td>12.04.2</td>
<td></td>
</tr>
<tr>
<td>12.2</td>
<td>12.06, 12.07</td>
<td>Subbase, base and bedding sand conformance</td>
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