

Large Format pavers

Installation

Pedestrian application



Excavation

To minimum of 120mm. (Allow for base rubble, bedding sand and paver.)

Base

50mm deep using 10mm rubble or similar.

Bed

Bedding sand 25mm deep using washed concrete sand or similar.

Product

Large Format 40mm pavers may be used.

Laying

When laying Large Format pavers it is important that they be adequately gapped. 4mm is recommended. This gap is to be maintained to all 4 sides of paver. When cutting Large Format pavers ensure that any resulting residue or slurry is washed off immediately with clean water.

Edge restraint

The paved area must be adequately restrained on all sides using a 100 x 100mm concrete edge restraint which includes 50mm galvanised mesh. (see figure 1)

Grouting & compacting

Use a vibrating machine to compact paved area making at least two passes over paving. Vibrating machine should have a plate size of no less than 500 x 600mm. Placing a mat between machine and pavers will protect the face of pavers. Paved area should be grouted using a suitable dry jointing sand. It is important that this material is applied to manufacturers instructions. Pavers must be thoroughly swept clean of any excess grouting material.

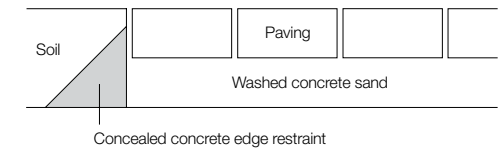
Sealing

Large Format pavers can be rendered stain resistant by the use of chemical sealers.

Important notes

- To achieve the best results from your Large Format pavers, it is recommended that your paving be designed by a qualified engineer with reference made to the CMAA's "Concrete Flag Pavements – Design and Construction Guide".
- Large Format pavers should be installed by a pavior experienced in the use of large-format pavers.
- Always ensure that paving surface is kept below the damp course level of any building. The amount by which paving must be kept below will vary from region to region. The local authority should be consulted before commencement of paving works.
- Paving must slope away from any building.
- The finished job will only be as good as the preparation and base compaction.
- Precautions must be taken in the first two to three months of paved surface to ensure that jointing sand is not removed. If jointing sand is removed, refill immediately. Maintaining the jointing sand will protect the structured integrity of paved surface. Conduct regular inspections of paved surface to identify any other problems. Attending to small localised problems often prevents the need for major maintenance of large areas.

Figure 1



Large Format pavers

Installation

Light traffic application



Excavation

To minimum of 190mm. (Allow for base rubble, bedding sand and paver)

Base

100mm deep using 10mm rubble or similar compacted to 95%.

Bed

Bedding sand 25mm deep using washed concrete sand or similar.

Product

Large Format 50mm or 60mm pavers may be used.

Laying

When laying Large Format pavers it is critical that the pavers be adequately gapped. 4mm is recommended. This gap is to be maintained to all 4 sides of paver. In vehicular applications, special attention should also be given to the paving bond that is used. Stretcher bond is the only bond recommended. (See figure 1.) When cutting Large Format pavers ensure that any resulting residue or slurry is washed off immediately with clean water.

Edge restraint

The paved area must be adequately restrained on all sides using a 100 x 100mm concrete edge restraint which includes 50mm galvanised mesh. (see figure 2)

Grouting & compacting

Use a vibrating machine to compact paved area making at least two passes over paving. Vibrating machine should have a plate size of no less than 500 x 600mm. Placing a mat between machine and pavers will protect the face of pavers. Paved area should be grouted using a suitable dry jointing sand. It is important that this material is applied to manufacturers instructions. Pavers must be thoroughly swept clean of any excess grouting material.

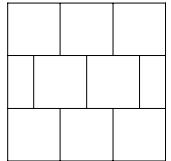
Sealing

Large Format pavers can be rendered stain resistant by the use of chemical sealers.

Important notes

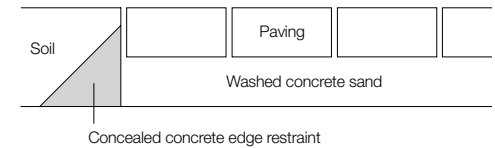
- To achieve the best results from your Large Format pavers, it is recommended that your paving be designed by a qualified engineer with reference made to the CMAA's "Concrete Flag Pavements - Design and Construction Guide".
- Large Format pavers should be installed by a pavior experienced in the use of large-format pavers.
- Always ensure that paving surface is kept below the damp course level of any building. The amount by which paving must be kept below will vary from region to region. The local authority should be consulted before commencement of paving works.
- Paving must slope away from any building.
- The finished job will only be as good as the preparation and base compaction.
- Precautions must be taken in the first two to three months of paved surface to ensure that jointing sand is not removed. If jointing sand is removed, refill immediately. Maintaining the jointing sand will protect the structured integrity of paved surface. Conduct regular inspections of paved surface to identify any other problems. Attending to small localised problems often prevents the need for major maintenance of large areas.

Figure 1



Stretcher bond with square paving units

Figure 2



Large Format pavers

Installation

Commercial application



Site inspection

Site inspection of civil works by paving supervisor. Detail any rectification work to Head Contractor prior to commencement of paving installation.

Setting out

Use of string lines is important so as to assure that sand bed does not exceed 30mm. Where paving width exceeds 5 metres the use of additional string lines are required to ensure that straight paving lines are maintained.

Bedding sand

Where practical a bedding sand that has a low percentage of fines and that falls within the grading limits listed in the table below should be used.

Seive size	% passing
9.52 mm	100
4.75 mm	90-100
2.36 mm	80-100
1.18 mm	50-85
600 microns	25-60
300 microns	10-30
150 microns	5-15
75 microns	0-10

Sand leveling

Sand leveling of bedding sand may be performed either manually or mechanically with care being taken not to damage base.

Bedding sand screening

Sand shall be spread to a uniform layer 30mm deep. Once compacted no area should exceed 25mm.

Product

Large Format 40mm, 50mm or 60mm pavers may be used depending on application.

Laying

When laying Large Format pavers it is critical that the pavers be adequately gapped. 3 to 5mm is recommended. This gap is to be in vehicular applications, special attention needs to be given to the paving bond that is used. Stretcher bond is the only bond recommended. (see figure 1). Type of paving bond becomes less critical in pedestrian applications where virtually any paving bond may be successfully used. When laying, care should be taken so as to not pre-compact sand bed.

Cutting

All pavers to be cut using a diamond saw. Cuts, where possible are to be within 5mm of object and if this is not possible then pavers are to be cut 100mm from object. Concrete infill to be of same material as used to manufacture pavers. When cutting Large Format pavers ensure that any resulting residue or slurry is washed off immediately with clean water.

Debris removal

Ensure that paved area is swept off and any debris removed before grouting and compaction take place.

Edge restraint

The paved area must be adequately restrained on all sides using a 100 x 100mm concrete edge restraint which includes 50mm galvanised mesh. (see figure 2)

Grouting & compacting

Use a vibrating machine to compact paved area making at least two passes over paving. Vibrating machine should have a plate size of no less than 500 x 600mm. Placing a mat between machine and pavers will protect the face of pavers. Paved area should be grouted using a suitable dry jointing sand. It is important that this material is applied to manufacturers instructions. Pavers must be thoroughly swept clean of any excess grouting material.

Works inspection

Assessment and inspection of finished works for general faults.

Joint filling

Check for areas where grouting material has been displaced and re-grout.

Final works inspection

Re-assessment and inspection for final approval of paved area.

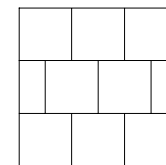
Maintenance

Paved area should not be cleaned mechanically for four weeks after paving has been completed. Paved area is to be inspected at monthly intervals for 6 months. Particular attention is to be given to any grouting material loss and any other problems that may be avoided by routine general maintenance.

Important notes

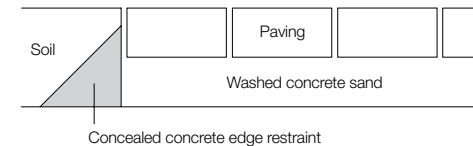
- Finished paving should be both uniform and even.
- Any lipping shall be kept to a minimum of 3mm and any deviation from a 3 metre long straight edge placed on the paved surface should be not be greater than 10mm.

Figure 1



Stretcher bond with square paving units

Figure 2



Large Format pavers

Installation

Using adhesive



Base

Large Format pavers may be laid using glue on a concrete slab.

Preparation

Ensure concrete slab is level and true. Remove any mortar dollops and make sure slab is clean of any dirt. Slab may be primed using a suitable masonry primer.

Paver adhesive

Use a suitable adhesive or cement glue.

Product

Large Format 40mm, 50mm or 60mm pavers may be used.

Paver preparation

Apply kemgrip to base of each paver before laying.

Laying

Pavers are placed into position on the adhesive and beaten into position using a rubber mallet. Adhesive screed should be between 5-15mm.

Joints

It is recommended that joints be at least 4mm.

Grout

Performed at least 24 hours after pavers laid. Grout may be mixture of cement, water and oxide (grout admixtures may be used) or pavelok may be used provided manufacturers instructions are adhered to.

Curing

60 to 72 hours required for pedestrian applications and at least 5 days required for light traffic applications.

Important Notes

Poor design can have serious consequences on flooring performance. Typical examples include not having sufficiently small bays, not letting dividing strips penetrate at least halfway into leveling and bedding layers and not having dividing strips over structural joints and movement joints in the base concrete.

Large Format pavers

Installation

Using mortar



Base

Large Format pavers may be laid using mortar on either a concrete slab or compacted road base.

Preperation

If laid on concrete slab then slab must be level and true but not smooth. Slab must be clean and wetted down prior to commencement of laying. If to be laid on road base ensure that road base depth is at least 100mm with a compaction of 95%.

Mortar mix

4 : 1 sand/cement. Sand should be plaster sand. Adding kemcrete to mixture assists adhering and waterproofing properties of mortar. Mix all ingredients thoroughly, mixture should pour but still stick. (ie) similar to cake mix consistency

Product

Large Format 40mm, 50mm or 60mm pavers may be used.

Bed

Mortar bed should not exceed 25mm.

Paver preparation

Apply kemgrip to base of each paver before laying.

Laying

Pavers are placed into position on the mortar and beaten into position using a rubber mallet.

Joints

It is recommended that joints be at least 4mm.

Grout

Performed at least 24 hours after pavers laid. Grout may be a mixture of cement, water and oxide (grout admixtures may be used) or pavelok may be used provided manufacturers instructions are adhered to.

Curing

24 hours required for pedestrian applications and at least 5 days required for light traffic applications.

Important Notes

Poor design can have serious consequences on flooring performance. Typical examples include not having sufficiently small bays, not letting dividing strips penetrate at least halfway into leveling and bedding layers and not having dividing strips over structural joints and movement joints in the base concrete.