CAPIO

Concrete Paver

PERMACON

Installation Guide

VAN BEEK'S
LANDSCAPE SUPPLY

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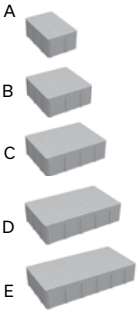
Capio Paver *New*

smooth

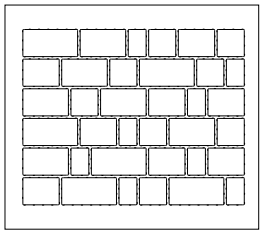


	Dimensions mm	Dimensions po
A	60 x 152 x 102	2 3/8 x 6 x 4
B	60 x 152 x 152	2 3/8 x 6 x 6
C	60 x 152 x 203	2 3/8 x 6 x 8
D	60 x 152 x 254	2 3/8 x 6 x 10
E	60 x 152 x 305	2 3/8 x 6 x 12
Weight/unit	4 kg	9 lb
Unit/area (avg.)	0.03 unit/m²	0.33 unit/ft²
Area/layer (avg.)	1.07 m²	11.5 ft²
Area/cube	**10.7 m²** **10 Rows**	**115 ft²**
Qty/cube	A=80 B=80 C=80 D=60 E=60	
Weight/cube	1467 kg	3234 lb

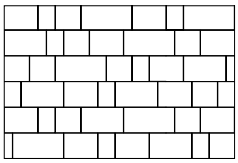
Code	Colour
	Prestige
127001183	Range Amber Beige
127001181	Range Scandina Grey
127001182	Rockland Black

Sold in full cubes
Production location Quebec

Typical Row



Laying Pattern



Linear

Techniseal 1 bag of sand covers approx. 108 ft²

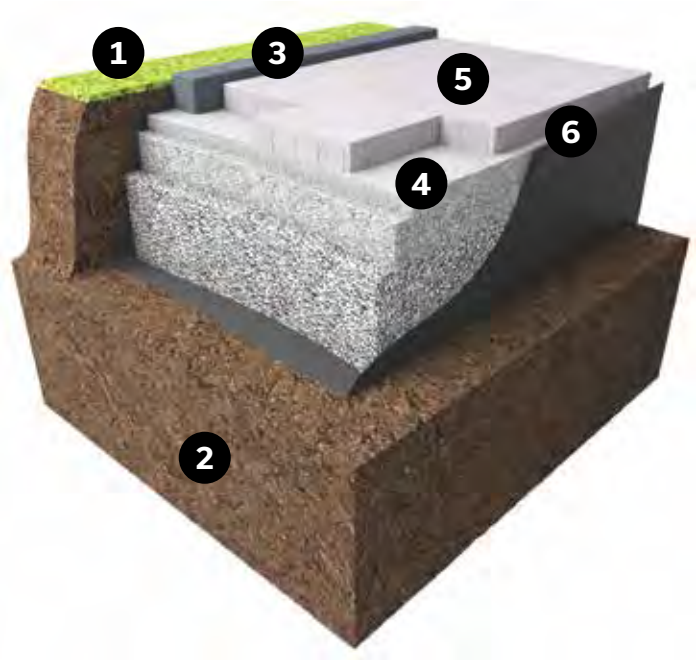
TECHNICAL INFORMATION

Product	Standard	Flexural Strength	Compressive Strength	De-icing salts freeze-thaw durability	Density	Absorption	Dimension Tolerance*
Capio Paver	CSA A231.2	N/A	μ 50 MPa ≥ 45 MPa	225 g/m² after 28 cycles 500 g/m² after 49 cycles	N/A	N/A	Length: -1.0 to +2.0 mm Width: -1.0 to +2.0 mm Height: ±3.0 mm

Joint sand compaction: Cover vibrating plate with a removable rubber tread (neoprene or polypropylene).
Cover snow removal tools with Teflon or neoprene protectors to minimize the risk of damage from scratches. Laying patterns are for design purposes only. Permacon shall not be responsible for excess or shortage of material.

Pavers

PAVER INSTALLATION (GENERIC)



TOOLS REQUIRED

> 1 wheelbarrow
> A few pegs
> 2 rigid pipes with a diameter of 25 mm - 1 in x 3 m - 10 ft
> 1 plank: 25 mm x 150 mm x 2.4 m - 1 in x 6 in x 8 ft.
> 1 plumb line
> 1 level
> 1 bricklayer's line: 15 m long - 50 ft
> 1 shovel
> 1 chalk line
> 1 measuring tape
> 1 broom
> 1 rake
> 1 guillotine or concrete saw (available from rental stores)
> 1 vibrating plate (compacting tool available from tool rental stores)

OPTIONAL TOOLS

> Jumping jack

The jumping jack should not be used to compact pavers. It should only be used for the foundation.

1 EXCAVATION

If pipes or wires are located in the area to be excavated, contact the representatives of the company concerned before the work is started.

To ensure adequate drainage, excavate the soil to obtain a minimum 2% slope (20 mm per metre or 1/4 inch per foot). The slope can be reduced to 1% if the drainage of all the landscaping is well controlled. In case of doubt, obtain an expert's assistance for a detailed analysis of everything concerning drainage (slopes of the ground, soil type, landscaping, etc.).

The excavation contour should extend beyond the surface to be paved by at least 300 mm - 12 in. Ideally, this distance should be 1 to 1 1/2 times the thickness of the foundation. The stability of the project depends on this measurement, which ensures that the paving stones at the edge will be as well supported as those in the centre.

Level the bottom of the excavation with a rake and if the soil is sandy, compact it with a vibrating plate or roller. It is preferable not to pack clay soil at this stage. in this case, the use of a geotextile membrane placed between the natural soil and the foundation is recommended to prevent foundation contamination by clay and ensure greater stability. Refer to the chart EXCAVATION DEPTH AND MINIMUM FOUNDATION to get the minimum excavation required (ref: photo #1).

2 FOUNDATION

Spread and compact the 0 to 20 mm - 0 to 3/4 in. stone in 100 mm - 4 in. layers. Lightly water the 0 to 20 mm - 0 to 3/4 in. stone to make tamping easier. To ensure an adequate foundation, compact the stone several times with a vibrating plate, roller, or a jumping jack (ref: photo #2). Once this stage is completed, you will be able to see what the final result will look like. You can verify the final level of the pavers by placing a paver on a guide (ref: photo #3). Refer to the typical installation drawings (see page 6).

3 CURB

If you install a Nova curb type, proceed with installation of the curbs immediately before completing the foundation. Start by laying the first side of the curb. Before installing the other side of the curb, temporarily place a row of pavers on the ground to determine the ideal distance and the position of the other curb, and thus minimize the size of the pavers. If you install a Melville curb, a Lafitt curb, a Celtik curb or even a plastic curb, refer to LAYING PAVERS.

4 INSTALLATION BED

Spread between 15 mm - 5/8 in. and 25 mm - 1 in. of concrete sand or screening (ref: photo #4). Bear in mind that a 25 mm - 1 in. bed will be reduced down to 15 mm - 5/8 in. in thickness once compacting is completed and after the paving stones are installed.

Level the concrete sand using two (2) 25 mm - 1 in. diameter pipes and a straight plank (ref: photo #5). Any significant variation in bed thickness may cause irregularities in the paved surface.

Make sure you do not compact the screenings or the sand before laying the pavers on the installation bed. Fill the holes left by the pipes.

5 LAYING THE PAVERS

Arrange the paving stones according to the pattern chosen with a 90° angle if possible. Proceed by walking on the paving stones (ref: photo #6).

Paving stones are manufactured with side spacers that will set a space of 3 mm - 1/8 in. between each paver. A space of 2 mm must be allowed for paving stones without spacers.

To obtain an even distribution of colour and texture, it is recommended that you choose paving stones from more than one cube at a time. Moreover, working across each cube always gives the best results.

Check the alignment of the pavers (after every five rows installed) and adjust them, if necessary, using a screwdriver.

Install paving stones up to the last row. To avoid having to cut paving stones later, determine the position of the curbs to finish with a complete paving stone.

If necessary, you can cut the paving stones using a cold chisel or specialized tool such as guillotine or a concrete saw (ref: photo #7). It is recommended that you use a chalk line to mark the paving stones to be cut. If you have to use a guillotine to cut the stones, make sure that the cut is at a slight angle as pavers cut this way are much easier to install. If you use a concrete saw, keep away from the paving stones already installed, since the dust and dirt from the sawing will permanently stain them. Wear safety glasses when cutting concrete products.

Proceed immediately with installation of Melville curbs, Lafitt Curbs, Celtik curbs or plastic curbs on the perimeter of the paved surface (ref. photo # 8). The curbs are laid directly on the densified granular foundation.

6 FILLING THE JOINTS

Once you have finished laying the paving stones, stabilize them using a vibrating plate (ref: photo #9). This operation will settle the stones into the bed while levelling the surface. Begin by brushing a thin uniform layer of joint-filling sand over the paving stones and into the joints (ref: photo #10), and then use a vibrating plate. For best results, run the plate two or three times in each direction. This operation will allow the sand to penetrate suitably into the joints and the paving stones to settle approximately 10 mm - 3/8 in. into the bed. (For improved performance, use Techniseal polymeric sand in accordance with the instructions provided on the bag).

The installation of a detachable neoprene sole (or layer) has been proven to be an additional protection against the risk of concrete spalls when filling the joints of paving stones.

Repeat the sand-spreading and vibrating procedures until all of the paving-stone joints have been filled. Remove the excess sand with a brush. The final level of the sand in the joints should be about 3 mm - 1/8 in. lower than the level of the paving stones.

If, after a few days, some joints are not properly filled, repeat the procedure. It is recommended to perform an annual maintenance of the joints between the paving stones.

WE SUGGEST SETTING ASIDE A NUMBER OF PAVING STONES FOR REPLACEMENT.


1


2


3


4


5


6


7


8

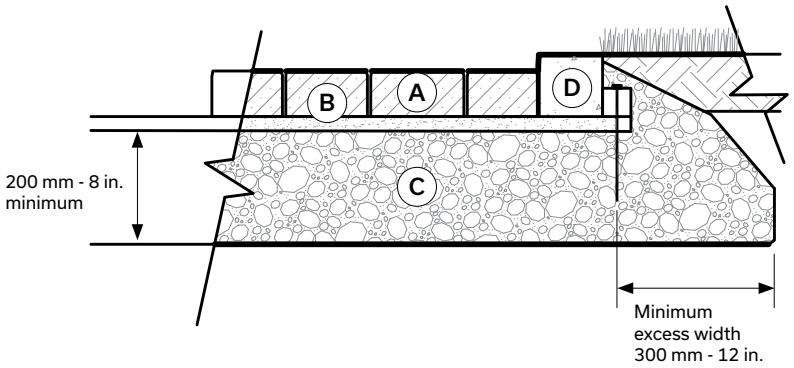

9


10

TYPICAL CROSS-SECTION - PAVERS

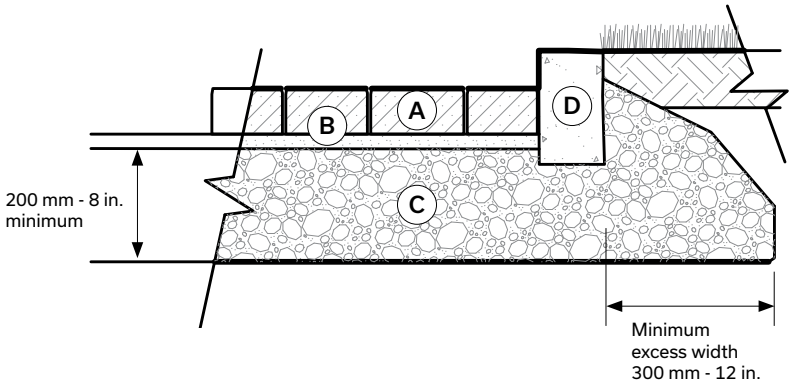
TYPICAL PAVER INSTALLATION WITH MELVILLE, LAFITT OR CELTIK CURB

- Ⓐ Paving stones
- Ⓑ Laying bed 25 mm - 1 in. (concrete sand)
- Ⓒ Compacted granular foundation 0 to 20 mm - 0 to 3/4 in.
- Ⓓ Melville, Lafitt or Celtik curb



TYPICAL PAVER INSTALLATION WITH NOVO CURB

- Ⓐ Paving stones
- Ⓑ Laying bed 25 mm - 1 in. (concrete sand)
- Ⓒ Compacted granular foundation 0 to 20 mm - 0 to 3/4 in.
- Ⓓ Novo curb



EXCAVATION DEPTH AND MINIMUM FOUNDATION[3]

NATURE OF PROJECT	GARAGE ENTRANCE		PATIO OR SIDEWALK	
NATURE OF SOIL	Clay[2]	Sandy	Clay	Sandy
MINIMUM EXCAVATION REQUIRED	400 mm 16 in.	300 mm 12 in.	350 mm 14 in.	250 mm 10 in.
MINIMUM FOUNDATION THICKNESS 0 TO 20 MM - 0 TO 3/4 IN. CRUSHED STONE	300 mm 12 in.	200 mm 8 in.	250 mm 10 in.	150 mm 6 in.
MINIMUM/MAXIMUM UNCOMPACTED INSTALLATION[1] BED	15 mm to 25 mm 5/8 in. to 1 in.	15 mm to 25 mm 5/8 in. to 1 in.	15 mm to 25 mm 5/8 in. to 1 in.	15 mm to 25 mm 5/8 in. to 1 in.
THICKNESS OF PAVING STONE	60 mm or 80 mm 2 3/8 in. or 3 1/8 in.	60 mm or 80 mm 2 3/8 in. or 3 1/8 in.	60 mm or 80 mm 2 3/8 in. or 3 1/8 in.	60 mm or 80 mm 2 3/8 in. or 3 1/8 in.

The information in this table shows the minimum required for a job well done. Anything above this level means improved stability for the whole.
[1] Once compacted, a 25 mm - 1 in. bed will be reduced down to 15 mm - 5/8 in.
[2] For certain areas where clay soil is unstable, the minimum excavation required is 600 mm - 24 in. and the minimum foundation is 525 mm - 21 in.
[3] Conforms to the recommanded ICPI standard (Interlocking Concrete Pavement Institute)