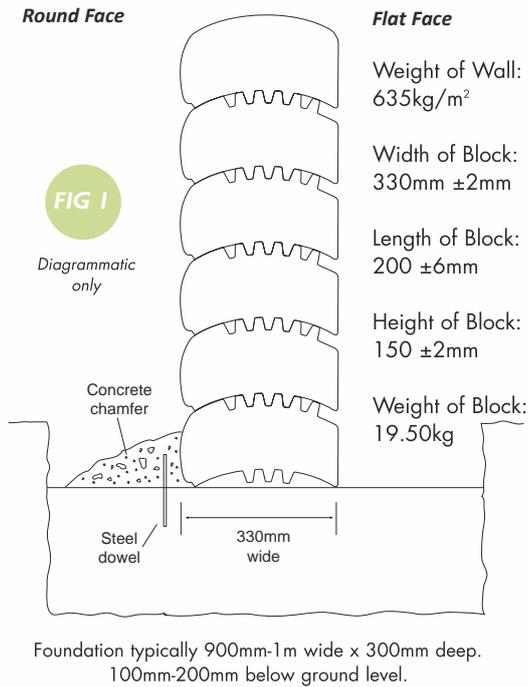


PORCUPINE INSTALLATION INSTRUCTIONS

TYPICAL DETAILS Mark III Porcupine



FOUNDATION

It is necessary to lay the Porcupine blocks on a concrete foundation, which must be designed to ensure suitable factors of safety against overturning and bearing stress. We can provide a suggestion of the details, which should be verified by a suitably qualified Engineer.

As a guide for smaller walls, the dimensions should be 700 - 800mm wide by 300mm deep.

We recommend the use of steel dowel bars embedded in a chamfer of concrete. The dowels should be inserted into the wet concrete foundation at the correct distance from the back or front of the footing to ensure the correct alignment of the blocks.

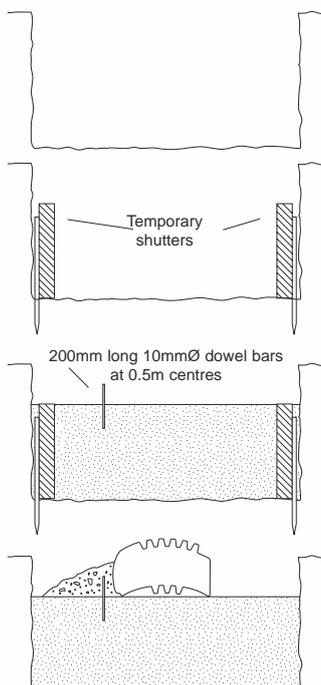
1. Dig Trench

FIG 2

2. Install to a level line temporary shutters

3. Pour concrete, trowel to a smooth level surface and insert dowel bars

4. Lay first row of blocks and place concrete chamfer over dowel bars



The chamfer will act as an additional factor against sliding.

The position of the blocks in the following is determined in the calculation of bearing pressures.

In clay soils a shear key detail will assist the prevention of sliding.

It is important to get the foundation surface level as any irregularity will show in the finished wall.

INSTALLATION

The lower block should always be placed horizontally on the foundation so that the flat face is vertical to the rear.

Changes in angle of the wall can then be made as follows:

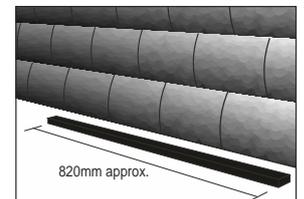
Blocks may be placed vertically with either the flat and round face exposed (see Fig 1). Alternatively, they may be raked back in increments of 7.5 degrees per row. This involves the movement of the block one spline backwards per row.

Several examples of how various angles can be achieved are shown in Figures 4, 5, 6 & 7. We do not recommend that Porcupine blocks should be laid at a greater angle than 22.5 degrees from the vertical.

Porcupine blocks are laid in a stretcher-bond fashion. Please note that due to the manufacturing process the length of the blocks varies slightly so they should be spaced approximately 5mm apart.

When constructing a long run of wall it is advisable to use a horizontal gauge-stick to ensure consistent number of blocks per linear metre, so that the bond is maintained (see Fig 3).

FIG 3 Use of Gauge-Stick



The top splines should be brushed clean on every block before laying the next block on top.

A string line, similar to that used in bricklaying, should be used to ensure the correct level is maintained. Backfilling and compacting should follow after every two rows.

When constructing vertical walls it is important to ensure the foundation is horizontal from front to back and check the correct verticality of each course to ensure that the 90 degree is maintained at

BENDS AND CURVES

Using standard Porcupine blocks, curves in a wall with a radius down to 8 metres can be constructed. The smaller radii are more easily accommodated when an angle of 7.5 degrees or vertical is adapted for the rake of the wall. By removing the central lower spine and corresponding upper splines, it is possible to achieve a radius down to approximately 3m.

Tighter bends can either be achieved by abutting two separate walls or, more preferably, by mitre cutting the blocks on site.

A mass concrete corner connecting two separate walls is also possible.

TYPICAL WALLS

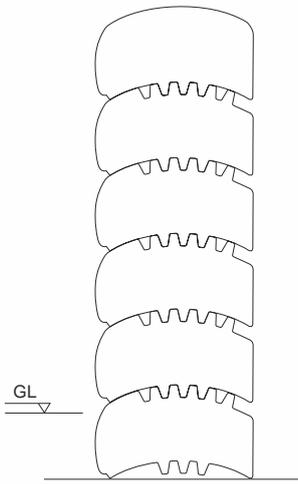


FIG 4 Vertical Wall

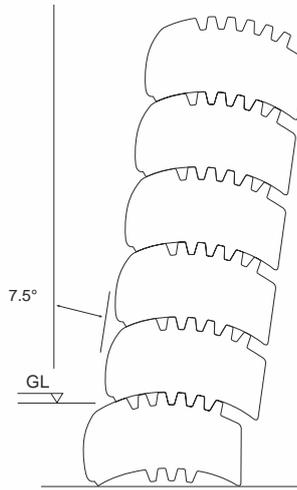


FIG 5 7.5° Wall (82.5° from horizontal)

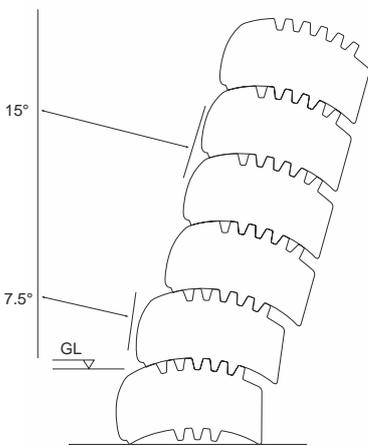


FIG 6 15° Wall (75° from horizontal)

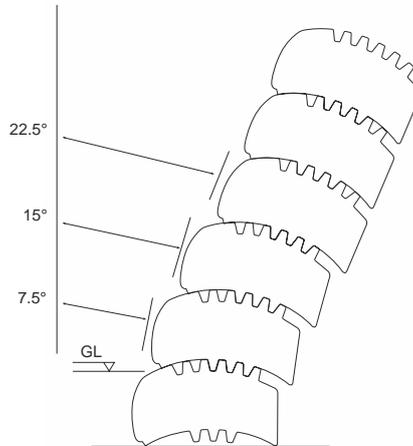
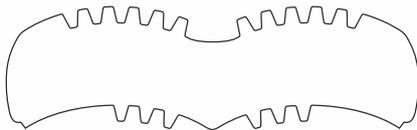


FIG 7 22.5° Wall (67.5° from horizontal)

FIG 8



BLOCKS CAN BE MANUFACTURED IN A BUTTERFLY CONFIGURATION FOR USE WHEN AN EXTRA WEIGHT OF WALL IS NEEDED. THESE BLOCKS CAN ALSO BE USED TO CONSTRUCT A FREE STANDING WALL UP TO 5 BLOCKS HIGH

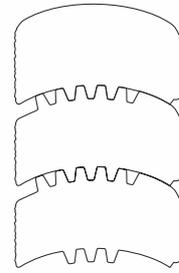
DESIGN SERVICE

We offer clients a "Design Suggestion Service" for Porcupine retaining walls.

Using our dedicated computer program, we will incorporate customer's specific construction parameters to ensure that the required factors of safety can be achieved if construction work is carried out correctly.

Our design suggestion service, which complies with BS8006, does not constitute or imply an indemnified design.

SPLIT FACE BLOCKS



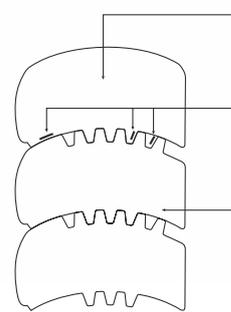
A random surface to the face of the wall can be achieved by using our split face Porcupine blocks.

FIG 9

COLOURED BLOCKS

PORCUPINE CAN BE SUPPLIED IN A RANGE OF COLOURS WHICH ARE MANUFACTURED TO SPECIAL ORDER

SECURING OF PORCUPINE COPING BLOCK



Porcupine Coping Block

Apply Sikadur 31 to top front of block and front face of two interlocking splines.

Porcupine Standard Block

FIG 10

Sikadur 31

Approximate Consumption 75g/m of coping

Technical Data:

Shear	21 N/mm ²
Tensile	14.8N/mm ²
Shelf Life	12 months in original container at 5-25°C
Mixed Material Pot Life	1½ hours @ 10°C 40 minutes @ 20°C

Available in 5kg Standard Pack Units
NB. Minimum working temperature 5°C