

Florawall®

Concrete retaining blocks installation guidelines



Florawall of a height greater than 1,5m must be designed by a competent Engineer.

General

Approved backfill material should be well drained and compacted in layers not exceeding one block height at optimum moisture content. Where geofabrics are used behind the Florawall the fabrics must be installed to the Engineer's details.

Foundation

It is recommended that, unless otherwise specified by the engineer, a 200mm thick concrete foundation be used on a suitably prepared founding layer. The first layer of blocks are then laid out to obtain the necessary alignment and the remainder of the foundation on each face of the base block filled and compacted before commencing packing of the wall blocks.

Figure 1

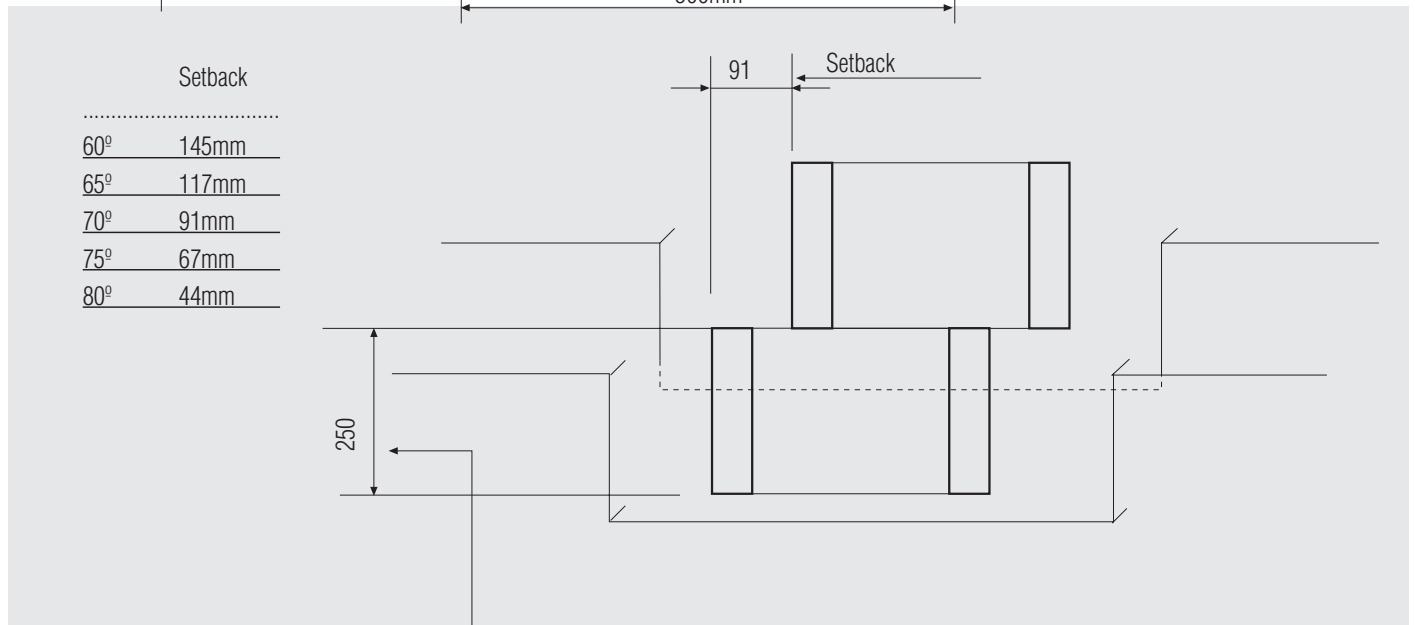
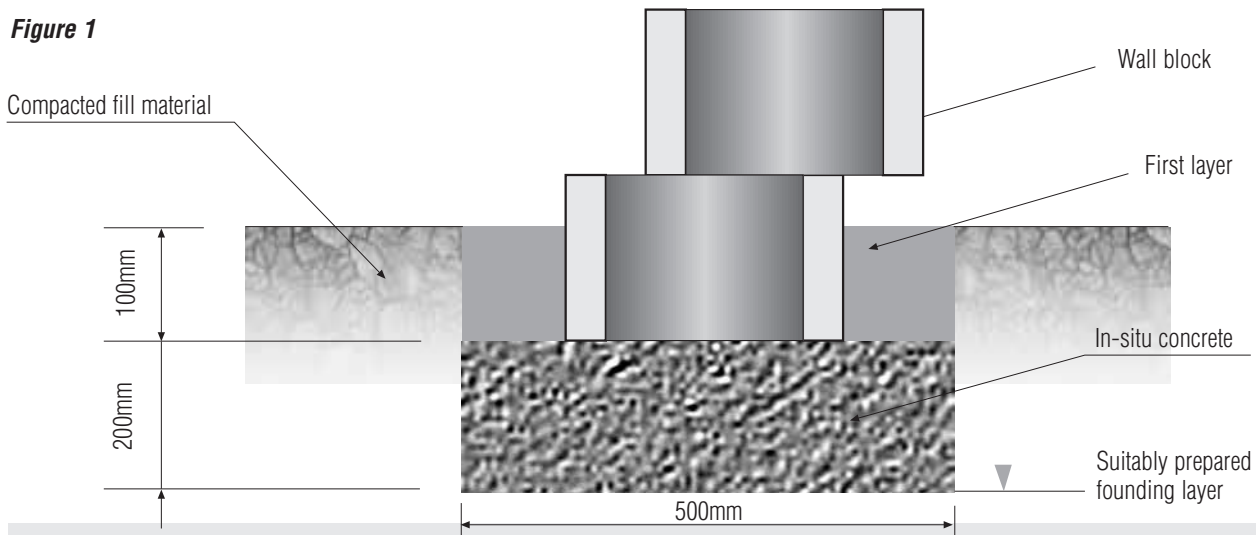


Figure 2: If the foundation is to be stepped, the rise should be multiples of 250mm. Similarly the foundation must be stepped back by the setback of the walls.

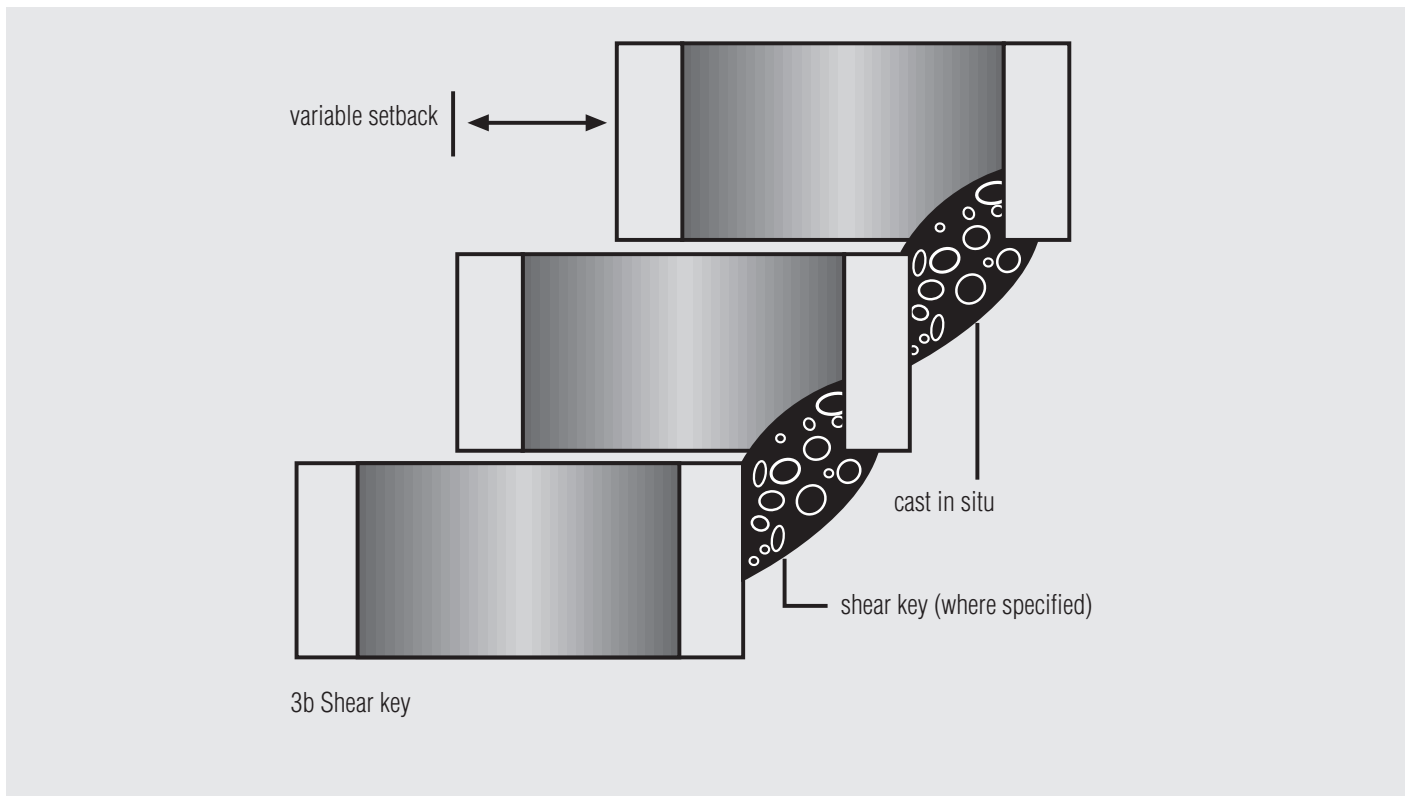


Figure 3: Section through blocks showing setback and shear inlay.

Shear resistance between blocks

The different types of blocks employ various methods of shear resistance to prevent one block moving relative to the underlying block. Some blocks have nibs, others use shear keys. For small walls (less than 1,2m in height), the use of shear key is not critical, for higher walls it is important (depending on the inclination).

The height of the wall is a function of the batter or slope of the wall. The less steep the slope is, the higher the wall can be constructed. The batter or slope is achieved by laying the blocks with a setback. Often the setback is determined by the nib employed to prevent shear. In these cases, the setback is fixed. Greater setbacks can be achieved by simply placing the blocks further back. However, this can only be done when the friction between the blocks is sufficient to resist the horizontal earth pressures.

A cast in situ shear key will add to resist the horizontal earth pressures.

Geosynthetic reinforcement

Depending on the design of the wall, the engineer may have specified the use of geosynthetic reinforcement. The purpose of geosynthetic material for reinforcement is to incorporate the backfill soil into the retaining wall, thus increasing the total mass of the wall and so increasing the stability of the wall. The contractor must ensure that the geosynthetic is in accordance the specification, is stored in an acceptable manner and is not damaged before or during the installation.

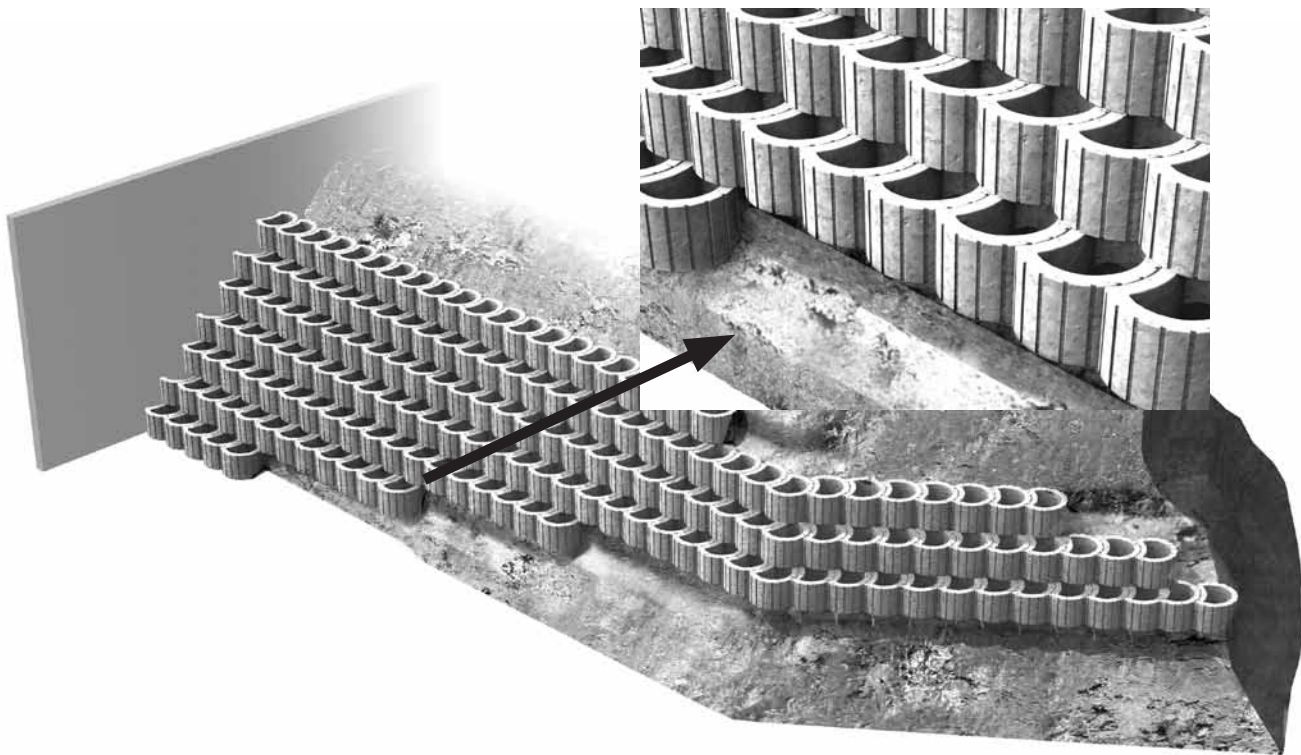


Figure 4

Construction procedure for geosynthetic reinforcement

1. The CRB blocks are positioned and levelled as with a gravity wall.
2. The soil is filled inside the block and behind the block and compacted, ensuring that the surface is level and free from sharp objects.
3. The geosynthetic is laid on the soil. Ensure that the geosynthetic is laid with the warp perpendicular to the wall. Ensure that the geosynthetic is properly tied into the CRB block in accordance with the manufacturer's instructions.

4. Proceed with the next layer in the same manner.
5. Where the geosynthetic is to be lapped, a lap of at least 0,5m is required.
 Note: geosynthetics should not be lapped in the strength direction, unless this has been specifically allowed for the design.
 Generally, geosynthetics should only be lapped in the lateral direction.



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