

R4 Example. Grouted cavity retaining wall

A grouted cavity retaining wall retains soil to a height of 1.8 m as shown in the diagram. The fill and surcharge result in the following loads:

7.9 kN (from the retained material -assume triangular distribution)

4.9 kN (from the surcharge loading - assume acts at mid height)

The wall comprises 102mm wide clay facing brick in one leaf and 100mm concrete blockwork in the other, the overall wall thickness being 330 mm. The reinforcement is located in the centre of the wall. The specification calls for the following:

Group 1 Clay Brick strength 20 N/mm²

Group 1 Concrete Block strength 7 N/mm²

Concrete (max aggregate size 10 mm) C28/35

Mortar designation M6

The main steel to be mesh with a vertical cross section area of 252 mm²

Check that the specification is adequate to resist the moment and shear force applied.

