

DESIGN EXAMPLE V5

The diagram below illustrates part of a four storey building of load bearing masonry. The floors and roof loads are carried by the inner leaf of the wall shown and both have spans of 6 m. Carry out calculations for the load case of vertical loads only for the wall between ground and first floor. What strength of block masonry unit will be needed?

Assume a concrete block masonry unit of work size 215 mm high by 140 mm thick is to be used in conjunction with M4 mortar.

Assume category II attestation of conformity masonry unit and class 2 execution control

Characteristic loadings

Roof Dead load = 3,8 kN/m²
 Imposed load = 0,75 kN/m²

Floors Dead load = 4,0 kN/m²
 Imposed load = 3,5 kN/m²

wt of inner leaf of masonry - assume 2,5 kN/m²

Assume 102,5 mm thick outer leaf
 140 mm thick inner leaf
 75 mm cavity

