

R3 Example. Reinforced Hollow Concrete Blockwork Column Subjected To Single Axis Bending

Design a 3,0m high reinforced hollow concrete blockwork column to carry a design vertical load of 375kN (N_{Ed}) and a design bending moment of 32,5kN.m (M_{Ed}). If the height of the column is increased to 6,0m also assess the effect this has on the column section chosen?

The masonry units to be used are dense aggregate concrete with an air dry compressive strength (non-normalised) of 7,3 N/mm². The concrete block masonry units are Group 2 of work size 440 by 215 by 215mm high with 30% voids ratio and of category I manufacturing control. The mortar is a class M6 (designation ii) General Purpose mortar with the work being constructed to class 1 execution control. The infill concrete is a C35/45. Trial column section is 440 by 440mm.