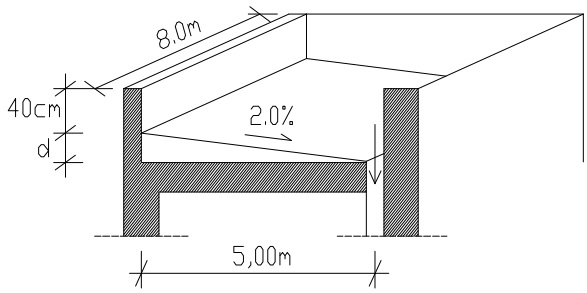
Practice exercise to Blackboard exercise No 2

1) Determine the (surface) unit weight of the structure!

1.5 cm tiles	ρ_t =	1800 kg/m^3
6 cm concrete bolster	ρ_c =	2000 kg/m^3
3 cm rockwool	ρ_{RW} =	50 kg/m^3
10 cm RC slab	ρ_{RC} =	2400 kg/m^3

Standard "I-200" steel beam ρ_{I200} = 7850 kg/m^3, A = 33,4 cm^2 in every 1.5 m

2) Flat roof



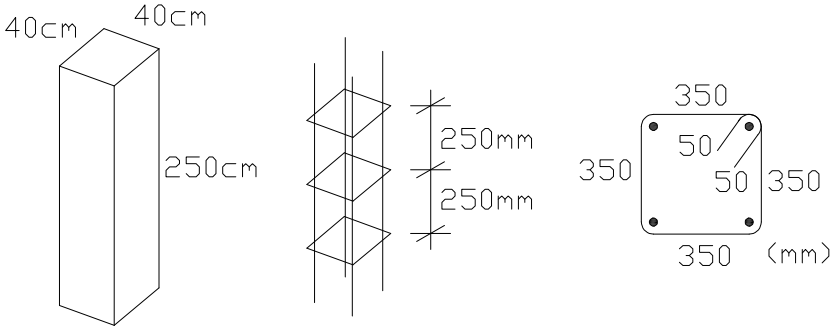
a) The slope of the flat roof is 2.0 %. How much is this in degrees and in radians?

b) d=?

c) If the drain gets plugged, how much water (V=?, G=?) can stay? γ_{water} = 9,8 kN/m^3

d) How much is the load intensity of this water?

3) Reinforced concrete column



a) Determine the total weight in kN! γ_{steel} = 77 kN/m^3, $\gamma_{concrete}$ = 22,1 kN/m^3

b) Determine the unit weight in kN/m!