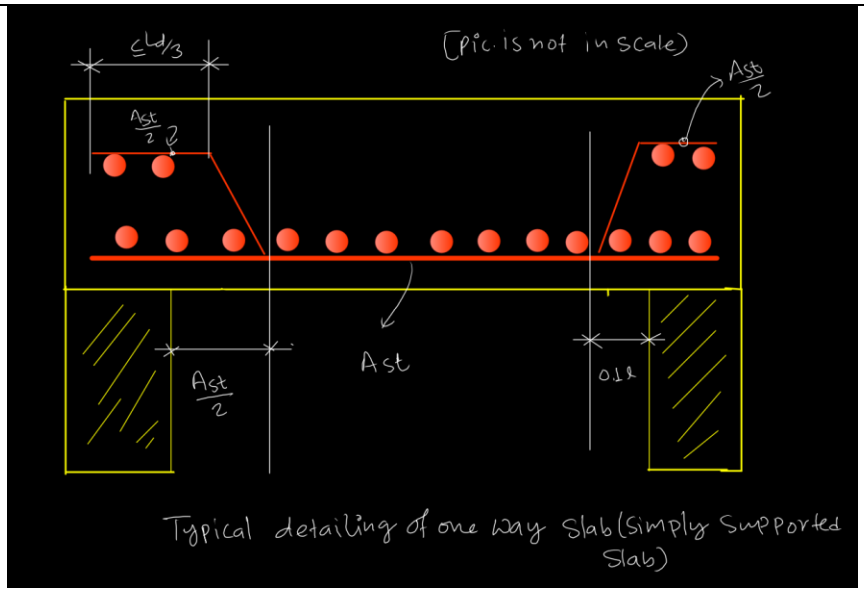
Design of One Way Slab

Er. Vivek Shah (www.ervivekshah.com.np)

Step I	Assume Suitable value of effective depth "d" or "l_{eff}" for preliminary design sun that $$\frac{l_{eff}}{d} < K_1 K_2 K_3 K_4$$
Step II	Compute "D" by assuming suitable cover and size of reinforcement.
Step III	Calculate dead load & design bending moment.
Step IV	Compute "d_{req}" for balanced section $$BM_u = Q_{lim} bd^2$$ Assume b=1m = 1000 mm Provide "d" more than calculated above
Step V	Compute R/F for under reinforced section $$Ast = 0.5 \frac{f_{ck}}{f_y} bd \left[1 - \sqrt{1 - \frac{4.6BMu}{f_{ck} bd^2}}\right]$$ [where b= 1000 mm] Ast computed must satisfy the codal provision.
Step VI	Provide distribution Reinforcement
Step VII	Check the slab for shear and bond.
Step VIII	Typical Detailing



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