

B	=	Width of footing (m)
D _f	=	Depth of footing (m)
L	=	Length of footing (m)
γ	=	Bulk unit weight of soil (t /m ³).

A factor of safety of 2.5 has to be applied to the value obtained from the above formula, to obtain net safe bearing capacity.

b) From Settlement Considerations:

General equation for allowable bearing capacity (for Clay Strata) is given under:

$$S_f = \frac{H_t}{1 + e_o} C_c \log_{10} \frac{p_o + \Delta p}{p_o} \times D_F$$

Where:

\bar{S}_f	=	Settlement of foundation
H_t	=	Height of compressible layer
e_o	=	Void ratio
C_c	=	Compression index
p_o	=	Overburden pressure
Δp	=	Pressure increment
D_F	=	Depth Factor

Maximum Permissible settlement is 5.0 cm (For Individual Footing) & 7.5cm (For Raft footing) as per code IS :1904-1986

For Sandy Strata

Referring Code IS: 8009 (Part1) – 1976.