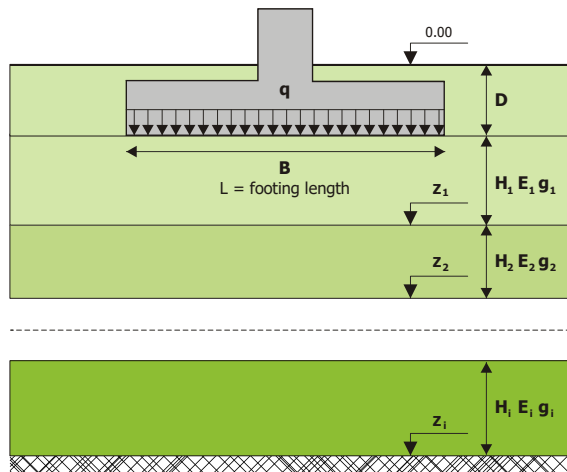


## Parametric analysis of expected settlements below a rectangular footing according to DIN 4019

### Project : GRC Ajdovščina



#### Parametric analysis data

Footing type:	Rigid
Ground water:	2.00 (m)
L/B ratio:	2.64
Minimum footing width $B_{min}$ :	21.00 (m)
Maximum footing width $B_{max}$ :	21.00 (m)
Minimum footing pressure $q_{min}$ :	50.00 (kPa)
Maximum footing pressure $q_{max}$ :	90.00 (kPa)
Embedment depth D:	0.10 (m)

#### Soil layer input data

Layer No	Bottom z (m)	Layer thickness (m)	Modulus of elasticity (MPa)	Gamma (kN/m <sup>3</sup> )
1	0.50	0.50	90.00	22.00
2	1.50	1.00	11.00	18.50
3	2.50	1.00	13.00	21.00
4	6.00	3.50	18.50	20.00
5	9.00	3.00	150.00	22.00

#### Parametric settlement results

$$\text{Settlement} = \frac{1}{E_s} \times \int_0^{ds} I \times \sigma_1 dz$$

Calculations are carried out using the procedure described in DIN 4019. The general equation for a single soil layer is presented above. The software uses an analytical procedure to calculate the above integral.

#### Expected settlements (mm)

$q_0$ (kPa)	B = 21.00	B = 21.00	B = 21.00	B = 21.00	B = 21.00	B = 21.00
47.80	15.94	15.94	15.94	15.94	15.94	15.94
57.80	19.27	19.27	19.27	19.27	19.27	19.27
67.80	22.61	22.61	22.61	22.61	22.61	22.61
77.80	25.94	25.94	25.94	25.94	25.94	25.94
87.80	29.27	29.27	29.27	29.27	29.27	29.27

