

Lateral Stress Distribution Analysis

PEYSANJ (Full) geotechnical engineering software

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www.NovotechSoftware.com

Project Title: Test Project
Client: Cleint Name
Address:
Job Code: 111-854

شرکت مهندسين مشاور ايران

بيشرو در فناوري تست شمع



Wall height = 3.6 m
 Q = 1.6 kg/cm²
 Friction Angle = 34 deg
 Note: Rankin active pressure is added

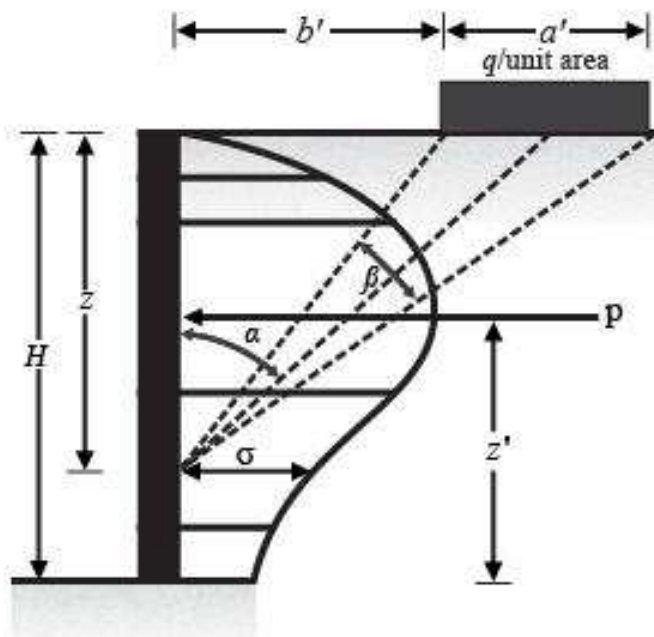
X = 1 m
 بار نواری : B=1.2 m
 Soil unit weight = 1.8 gr/cm³

$$\sigma = \frac{2q}{\pi} (\beta - \sin \beta \cos 2\alpha)$$

$$P = \frac{q}{90} [H(\theta_2 - \theta_1)]$$

$$\theta_1 = \tan^{-1} \left(\frac{b'}{H} \right) \text{ (deg)}$$

$$\theta_2 = \tan^{-1} \left(\frac{a' + b'}{H} \right) \text{ (deg)}$$



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Total lateral load behind the wall due to surcharge (without Rankin effect)

theta1 = 15.5 deg. theta2 = 31.4 deg.

Ps = 10179.5 kgf (per linear m of the wall)

@ Zs = 1.46 m (from the bottom of the wall)

∴ Please visit www.ejge.com/iGEM/Articles/FactorOf2/FactorOf2.htm for a discussion on this formula

عمق (m)	Notes	Rankin Active P (kg/cm2)	Surcharge P (kg/cm2)	Total Lateral P (kg/cm2)
0		0	0	0
0.18		0.009	0.194	0.203
0.36		0.018	0.355	0.373
0.54		0.027	0.463	0.491
0.72		0.037	0.518	0.555
0.9		0.046	0.53	0.575
1.08		0.055	0.511	0.566
1.26		0.064	0.475	0.54
1.44		0.073	0.431	0.505
1.62		0.082	0.385	0.468
1.8		0.092	0.341	0.433
1.98		0.101	0.3	0.401
2.16		0.11	0.263	0.373
2.34		0.119	0.23	0.349
2.52		0.128	0.202	0.33
2.7		0.137	0.177	0.314
2.88		0.147	0.156	0.302
3.06		0.156	0.137	0.293
3.24		0.165	0.121	0.286
3.42		0.174	0.108	0.282
3.6		0.183	0.096	0.279



