

10.7.3.11 GROUP LATERAL LOAD RESISTANCE

Pile group factored resistance for lateral loads shall be taken as:

$$Q_R = \eta \phi_L \Sigma Q_L$$

Where:

Q_L = nominal lateral resistance

For seat type abutments service limit state shall be limited to ¼ inch, and for Strength and Extreme Event Limit States shall be limited to 2"

ϕ_L = resistance factor¹

For Service Limit State $\phi_L = 1.0$

For Strength Limit State $\phi_L = 0.9$

For Extreme Event Limit State $\phi_L = 1.0$

η = Group Efficiency Factor

$\eta = 0.75$ cohesionless soil

$\eta = 0.85$ cohesive soil

Note: for integral abutments see [..\11 Abutments Piers and Walls\11.6.1.2 Integral Abutments.doc](#)

¹ These resistance factors have been approved by the Geotechnical Engineer