

## Settle material parameters

Name	Symbol in Settle3 <sup>1</sup>	Units <sup>2</sup>
Unit weight:	$\gamma$	(F / L <sup>3</sup> )
Saturated unit weight	$\gamma_{\text{sat}}$	(F / L <sup>3</sup> )

### ***Immediate Settlement:***

1-D Young's modulus:	$E_s$	(Stress)
1-D unload/reload modulus:	$E_{\text{sur}}$	(Stress)
Young's modulus:	$E$	(Stress)
unload/reload modulus:	$E_{\text{ur}}$	(Stress)
Poisson's ratio:	$\nu$	
Coefficient of geostatic stresses:	$K_0$	

### ***Consolidation Settlement***

#### **Linear**

Coefficient of compressibility:	$m_v$	(Stress <sup>-1</sup> )
Unload/reload coefficient of compressibility:	$m_{\text{vur}}$	(Stress <sup>-1</sup> )

#### **Non-linear**

Compression index:	$C_c$	
Compression index (strain based):	$C_{\text{ce}}$	
Recompression index:	$C_r$	
Recompression index (strain based):	$C_{\text{re}}$	
Effective preconsolidation stress:	$P_c$	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)

<sup>1</sup> Symbols in italics are not used in Settle3 but are used in the documentation <sup>2</sup>  
 F = force, L = length, T = time

Initial void ratio:	$e_0$	
<b>Janbu</b>		
Modulus number:	$m$	
Recompression modulus number	$m_r$	
Stress exponent:	$a$	
Effective preconsolidation stress:	$P_c$	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)

### **Koppejan**

Compression index:	$C_p$	
Creep compression index:	$C_s$	
Recompression index:	$C_p'$	
Creep recompression index:	$C_s'$	
Effective preconsolidation stress:	$P_c$	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)

### ***Time-dependent consolidation***

Coefficient of consolidation (vertical):	$C_v$	$L^2 / T$
Recompression Coefficient of consolidation (vertical):	$C_{vr}$	$L^2 / T$
Permeability (vertical):	$K$	$L / T$
Recompression permeability (vertical):	$K_r$	$L / T$
Skempton pore pressure coefficient:	$B\text{-bar}$	
Secondary compression index:	$C_a$	
Secondary compression index (strain based):	$C_{ae}$	

Secondary recompression index:	$C_{ar}$	
Secondary recompression index (strain based):	$C_{are}$	
Ratio of secondary to primary compression:	$C_a/C_c$	
Variable permeability parameter (Terzaghi):	$C_k$	
Variable permeability parameter (Vaughan):	$B$	$L^2 / F$

### ***Wick drain material parameters***

Ratio of horizontal to vertical coefficient of consolidation:	$C_h/C_v$	
Ratio of horizontal to vertical permeability:	$K_h/K_v$	

### ***Wick drain parameters***

Equivalent drain diameter:	$d$	$L$
Drain spacing:	$D$	$L$
Drain length:	$l$	$L$
Ratio of diameter of smear zone to diameter of drain:	$S$	
Ratio of undisturbed to smear zone permeability:	$k_h/k_s$	
Discharge capacity:	$q_w$	$L^3 / T$

### ***Empirical parameters***

Cone time bearing resistance:	$q_c$	stress
Blow count (corrected to 60% efficiency):	$N_{60}$	blows / foot