

Settle material parameters

Name	Symbol in Settle3D ¹	Units ²
Unit weight:	γ	(F / L ³)
Saturated unit weight	γ_{sat}	(F / L ³)

Immediate Settlement:

1-D Young's modulus:	E_s	(Stress)
1-D unload/reload modulus:	E_{sur}	(Stress)
Young's modulus:	E	(Stress)
unload/reload modulus:	E_{ur}	(Stress)
Poisson's ratio:	ν	

Consolidation Settlement

Linear

Coefficient of compressibility:	m_v	(Stress ⁻¹)
Unload/reload coefficient of compressibility:	m_{vur}	(Stress ⁻¹)

Non-linear

Compression index:	C_c	
Compression index (strain based):	C_{ce}	
Recompression index:	C_r	
Recompression index (strain based):	C_{re}	
Effective preconsolidation stress:	P_c	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)
Initial void ratio:	e_0	

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Modulus number:	m
Recompression modulus number	m_r

¹ Symbols in italics are not used in Settle3D but are used in the documentation

² F = force, L = length, T = time

Stress exponent:	a	
Effective preconsolidation stress:	Pc	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)

Koppejan

Compression index:	Cp	
Creep compression index:	Cs	
Recompression index:	Cp'	
Creep recompression index:	Cs'	
Effective preconsolidation stress:	Pc	(Stress)
Overconsolidation ratio:	OCR	
Overconsolidation margin:	OCM	(Stress)

Time-dependent consolidation

Coefficient of consolidation (vertical):	Cv	L^2 / T
Recompression Coefficient of consolidation (vertical):	Cvr	L^2 / T
Permeability (vertical):	K	L / T
Recompression permeability (vertical):	Kr	L / T
Skempton pore pressure coefficient:	B-bar	
Secondary compression index:	Ca	
Secondary compression index (strain based):	Cae	
Secondary recompression index:	Car	
Secondary recompression index (strain based):	Care	
Ratio of secondary to primary compression:	Ca/Cc	
Variable permeability parameter (Terzaghi):	Ck	
Variable permeability parameter (Vaughan):	B	L^2 / F

Wick drain material parameters

Ratio of horizontal to vertical coefficient of consolidation:	Ch/Cv
Ratio of horizontal to vertical permeability:	Kh/Kv

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:	$\frac{k_h}{k_s}$	
Discharge capacity:	q_w	L^3 / T

Empirical parameters

Cone time bearing resistance:	qc	stress
Blow count (corrected to 60% efficiency):	N60	blows / foot