

Table 3.1. Wall Displacements Required to Reach Active State

Investigator	Soil Type	Type of Wall Movement	Max. Wall Displacement Required
Sowers and Sowers (1961)	Loose Sand	RB mode	0.0020 H
	Dense Sand		0.0005 H
Mackey and Kirk (1967)	Loose Sand	T mode	0.0040 H
	Dense Sand		0.0030 H
Matteotti (1970)	Sand	RB mode	0.0008 H
Bros (1972)	Sand	T mode	0.0006 H
		RT mode	0.0012~0.0018 H
		RB mode	0.0035 H
NAVFAC DM-7.2 (1982)	Loose Sand	—	0.0020 H
	Dense Sand		0.0005 H
Bowles (1988)	Loose Sand	—	0.0020~0.0040 H
	Dense Sand		0.0010~0.0020 H
Fang et al. (1997)	Loose Sand	T mode	0.0015 H

Note: RB = Rotation about base; RT = Rotation about top; T = Translation; and H = Wall height

Table 3.2. Technical Information of the Acentric Motor

Manufacture	Mikasa
Type	KJ75-2P
Power (Watt)	75
Voltage (Volt)	220
Frequency (Hz)	50/60
Vibration per Minute	3000/3600
Mass (kg)	6.2



Table 5.1. Parameters of Loose and Compacted Sand

Backfill condition	Unit weight γ (kN/m ³)	Relative density D_r (%)	Internal friction angle ϕ (degree)	Wall friction angle ϕ_w (degree)	Sidewall friction angle ϕ_{sw} (degree)	Interface friction angle i (degree)
Loose	15.6	35	31.3	9.5	7.5	20.7
Dense	16.5	72	40.1	13.3	7.5	23.6

Table 5.2. Properties of Ottawa Sand

Shape	Rounded
e_{max}	0.76
e_{min}	0.50
G_s	2.65
D_{60}, mm	0.32
D_{10}, mm	0.21
C_u	1.52

Table 6.1. At-Rest Earth Pressure Experiments for Loose Sand

Interface Inclination Angle,	Test No.
$\alpha = 0^\circ$	0113
	0117
	0119
	0127
	0128
	0130
	0131
	0215
	0216
$\alpha = 45^\circ$	0314
	0315
	0329
	0330
	0410
	0415
$\alpha = 60^\circ$	0321-1
	0321-2
$\alpha = 70^\circ$	0317
	0318
$\alpha = 80^\circ$	0315
	0316
	0411

Table 7.1. At-Rest Earth Pressure Experiments for Compacted Sand

Interface Inclination Angle,	Compacted Sand	
	Square Compactor	Strip Compactor
$\alpha = 0^\circ$	0223	0529
	0226	0621
	0302	
$\alpha = 45^\circ$	0421	0516
	0423	
$\alpha = 60^\circ$	0504-1	0521
	0504-2	
$\alpha = 70^\circ$		0606
$\alpha = 80^\circ$		0603

