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Selecting APE Vibro size on the basis of the Standard Penetration Test (SPT)

Sands (non-cohesive soils)		Clays (cohesive soils)	
blows per foot	Relative density of sands	blows per foot	Relative density clay
0 to 4	very loose	0 to 2	very soft
4 to 10	loose	2 to 4	soft
10 to 30	medium	4 to 8	medium
30 to 50	dense	8 to 15	stiff
over	very dense	15 to 30	very stiff

Sands (non cohesive soils)							
Soils blow count per foot or "N" values	relative density	wood piles	open ended pipe piles	closed ended pipe	H-beams	sheets	concrete piles
0 to 3	very loose	50/150	50/150	150	50/150	50	150
4 to 10	loose	150	150	150T/200	150	50/150	200
10 to 30	medium	150	200	300	200	200	300-400
30 to 50	dense	pre-drill	200	pre-drill	150/200	200/300	300/400
over 50	very dense	pre-drill	200/400	pre-drill	200/400	200/400	400/600

Clays (cohesive soils)							
Soils blow count per foot or "N" values	relative density	wood piles	open ended pipe piles	closed ended pipe	H-beams	sheets	concrete piles
0 to 3	very soft	50/150	50/150	200	50/150	100	200
4 to 10	soft	200	200	300	200	150	200/300
10 to 30	medium	300	200/300	400/600	300	200/300	400/600
30 to 50	stiff	pre-drill	300	400T	200/300	200/300	400/600
over 50	very stiff	pre-drill	300/400/600	pre-drill	400	300/400	400/600

This chart is a guide for APE employees only. This chart must be used in conjunction with the combined experience of the APE sales staff. APE does not warranty the above data. All pile driving is at the contractor's risk. APE rents equipment to the contractor and the contractor has the choice of returning the equipment if he does not feel the equipment is working to his satisfaction. Selection of a vibro on data from this chart is at the sole risk of the contractor.

When selecting vibro size, please use the amplitude equation. Do not use a vibro that cannot generate at least 0.125 amplitude to the pile when free hanging. For stiff clays, do not use a vibro that cannot generate at least 0.250 amplitude. For extremely large pile weights amplitude requirements may vary. For special projects not covered in this chart please consult the factory. April 2001