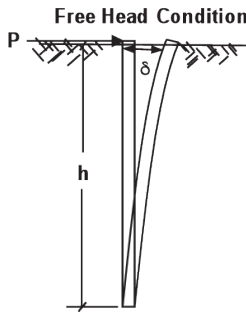


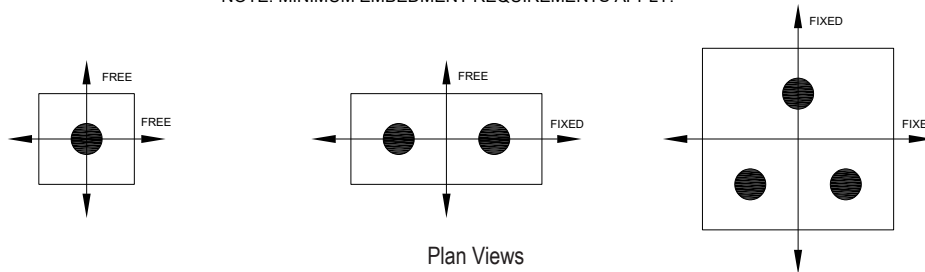
# MAGNUM® Helical Pile Allowable Lateral Shaft Capacity (lbs)\*

Head Fixity	Helical Pile	Non-Cohesive Soils				Cohesive Soils			
		V. Loose	Loose	Medium	Dense	V. Soft	Soft	Medium	Stiff
 <p>Free Head Condition</p> <p>Pile Head Free To Rotate</p>	MH2325U	300	600	900	1,300	300	700	1,200	2,200
	MH222U	400	800	1,200	1,600	400	900	1,500	2,700
	MH227U	500	900	1,300	1,800	400	900	1,600	2,800
	MH313B/BR	400	700	1,000	1,400	400	800	1,400	2,400
	MH325B/BR	500	1,000	1,300	1,800	500	900	1,700	2,900
	MH3521U	600	1,200	1,600	2,200	500	1,100	2,000	3,400
	MH3530U	700	1,300	1,800	2,500	500	1,200	2,100	3,700
	MH429U/Y	1,000	1,900	2,700	3,700	800	1,600	2,900	5,100
	MH434U	1,100	2,100	2,900	3,900	800	1,700	3,000	5,300
	MH530Y	1,500	2,700	3,700	5,100	1,000	2,100	3,800	6,800
	MH536Y	1,600	2,900	4,000	5,500	1,100	2,200	4,000	7,100
	MH542Y	1,600	3,000	4,200	5,700	1,100	2,300	4,200	7,300
	MH547Y	1,700	3,100	4,400	6,000	1,100	2,400	4,300	7,500
	MH736U	2,200	4,100	5,700	7,800	1,500	3,100	5,500	9,600
	MH740U	2,300	4,300	6,000	8,300	1,600	3,200	5,700	9,800
	MH745U/Y	2,400	4,500	6,300	8,600	1,600	3,200	5,800	10,100
	MH850Q	3,300	6,300	8,800	12,100	2,400	4,300	7,900	13,700
	MH939U	3,500	6,800	9,500	13,100	2,300	4,600	8,500	14,800
	MH1050U	4,400	8,800	12,300	16,800	2,900	5,700	10,500	18,000
	MH1250Q	5,500	11,300	15,800	21,900	3,600	7,100	12,900	22,600
MH1338Q	5,300	11,000	15,300	21,300	3,600	7,000	12,800	22,300	
MH1650U	7,300	15,900	22,300	31,100	4,800	9,400	17,300	30,000	
MH1843Q	8,300	19,000	27,000	37,500	5,700	11,000	20,300	35,000	
<b>Minimum Pile Depth, h =</b>		<b>28d</b>	<b>28d</b>	<b>28d</b>	<b>28d</b>	<b>34d</b>	<b>34d</b>	<b>34d</b>	<b>34d</b>

Index Soil Properties:	Non-Cohesive Soils				Cohesive Soils			
	V. Loose	Loose	Medium	Dense	V. Soft	Soft	Medium	Stiff
<b>SPT Blow Count (bpf)</b>	1-4	4-10	10-30	30-50	1-2	2-4	4-8	8-15
<b>Strain, <math>\epsilon_{50}</math></b>	N/A	N/A	N/A	N/A	0.06	0.02	0.01	0.005
<b>p-y Modulus (pci)</b>	5	25	90	225	30	100	500	1000
<b>Cohesion (psf)</b>	0	0	0	0	200	400	800	1500
<b>Friction Angle (deg)</b>	25	29	33	39	0	0	0	0
<b>Unit Weight (pcf)</b>	70	90	110	120	80	85	90	100

## PILE HEAD FIXITY EXAMPLES

NOTE: MINIMUM EMBEDMENT REQUIREMENTS APPLY.



1 Allowable lateral capacity for round-shaft helical piles. Square shaft helical piles (MS150B and MS175B) have negligible lateral capacity.

\*Limitations: IBC2021 states that the allowable lateral capacity of a pile shall be half the load causing 1-inch of deflection. Many professionals use the lateral capacity at a deflection of 0.5 inches as the allowable lateral capacity. The allowable lateral capacities shown in these tables are based on a predicted deflection of 0.5 inches at the ground surface. Refer to MAGNUM® Technical Reference Manual for theoretical load displacement curves and for allowable capacities at other deflection limits. These capacity tables are based on lateral load applied at ground surface and galvanized shafts with 50 years corrosion in non-severe corrosive conditions. Contact MAGNUM® technical support professionals for lateral capacity when loads are applied above ground, for other corrosion conditions, or for resistance to bending moments. Occasionally, annular space can develop around upper portions of the shaft when helical piles have multiple bolted couplings (all MAGNUM® helical piles larger than 3.5" diameter) or when installation methods cause excessive wobbling. It is recommended that any annular space be grouted from the surface using fast-setting, non-shrink, neat cement grout when lateral capacity is required.

