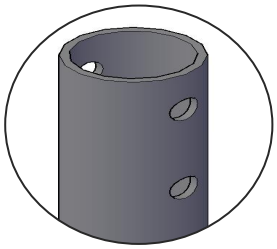
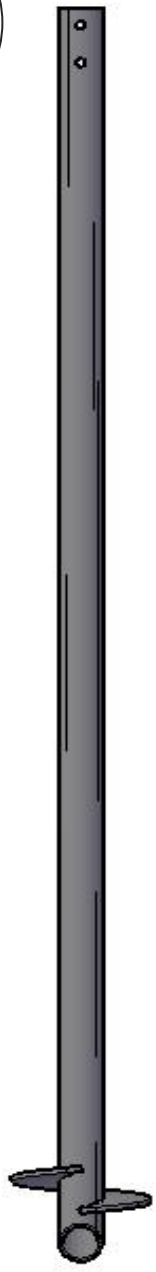
Pion Power

TECHNICALSHEET
Pion POST 3-1 /2"PILE WITH 12"ØBLADE

PIER PHYSICAL CHARACTERISTICS	
EXTERNAL PILE DIAMETER	89MM(3-1/2IN)
BLADE DIAMETER	300 MM (12 IN)
TUBING THICKNESS	5.5 MM (0.22 IN)
BLADE THICKNESS	10 MM (3/8 IN)
LENGTH	2.5 M OR 3 M(8 OR 10FT)
EXTENSIONS	MANY SIZES AVAILABLE
STEEL ELASTIC LIMIT	350 MPA

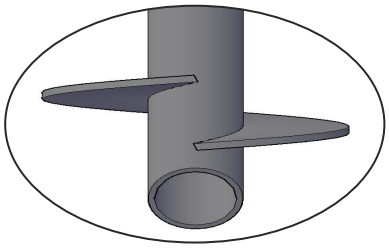




RESISTANCE					
COMPRESSIVE BEARING CAPACITY		TENSILE BEARING CAPACITY		LATERAL BEARING CAPACITY	
ULS		ULS		ULS	
LBS	KN	LBS	KN	LBS	KN
90 000	400	90 000	400	2700	12
TUBE RESISTANCE MOMENT, ULS (KN.M)			9.9		

ULS: Ultimate limit state

PIER'S PHYSICAL AND CHEMICAL PROPERTIES	
STEEL GRADE	CONFORM TO ASTM A500 CLASS B
	CONFORM TO CSA G40.21
GALVANISATION	CONFORM TO ASTM-A123M
	CONFORM TO G164 M-92
WELDING	CONFORM TO CSA W59-M1989



Pion Power
3761 Victoria Park Ave. Unit 9 Scarborough, Ontario M1W 3S2

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TECHNICALSHEET
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APPLIED TORQUE VERSUS THE ALLOWABLE LOADS IN COMPRESSIVE AND TENSILE

APPLIED TORQUE (LB-FOOT)	COHESIONLESS SOILS (SILT, SAND OR GRAVEL)		COHESIVE SOILS (CLAY)	
	ALLOWABLE LOADS (KN)		ALLOWABLE LOADS (KN)	
	COMPRESSIVE	TENSILE	COMPRESSIVE	TENSILE
500	16	10	9	3
750	22	15	15	8
1000	28	20	21	12
1250	34	25	27	16
1500	40	30	32	20
1750	46	35	38	25
2000	52	38	44	29
2250	58	40	50	33
2500	64	42	55	37

*** ALLOWABLE LOADS IN COHESIONLESS SOILS (SILT, SAND OR GRAVEL)**

COMPACTION INDEX N	ALLOWABLE BEARING CAPACITY OF SOILS (KPA)	ALLOWABLE LOADS (KN)	
		COMPRESSIVE	TENSILE
3	50	8	6
5	75	14	10
6	100	17	12
8	125	22	16
10	150	28	20.5
11	175	31	22.5
13	200	35	27
16	250	45	33
⩾20	⩾300	⩾56	⩾41

* ALLOWABLE LOADS IN COHESIVE SOILS (CLAY)

UNDRAINEDSHEAR STRENGH	ALLOWABLE BEARING CAPACITY OF SOILS (KPA)	ALLOWABLE LOADS (KN)	
		COMPRESSIVE	TENSILE
30	50	11	7
44	75	16	10
58	100	22	13
73	125	27	16.5
88	150	33	20
102	175	38	23
117	200	43.5	26
145	250	54	33
⩾175	⩾300	⩾65	⩾40

TECHNICAL NOTES:

SAFETY FACTOR—COHESIONLESS SOIL

LOAD CAPACITY	SAFETY FACTOR IN RELATION TO ULTIMATE LOAD CAPACITY
COMPRESSIVE LOAD	1.8 TO 2.5
TENSILE LOAD	2.0 TO 2.5

SAFETY FACTOR - COHESIVE SOIL

LOAD CAPACITY	SAFETY FACTOR IN RELATION TO ULTIMATE LOAD CAPACITY
COMPRESSIVE LOAD	1.7 TO 3.0
TENSILE LOAD	1.9 TO 3.0

*** ALLOWABLE LOAD CONSIDERING BLADE THICKNESS OF 12.7 MM (½ IN)**

LATERAL LOAD	
SOIL DENSITIES (KN/M3)	ALLOWABLE RESISTANCE (KN)
16	4.5
18	5
20	5.7

REGISTERED PROFESSIONAL ENGINEER PROVINCE OF NOVA SCOTIA
DATE 2020-08-21
L.H. Wang
20200438