XPile™ Technical Data

Sectional And Mechanical Properties of CFT CHS Piles

Building Products Plus
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American Pole & Timber
(866) 216-0764
www.AmericanPoleAndTimber.com

PROPERTY	NOTATION	UOM	VALUE (Circular Hollow Section)						
			XP - C1000	XP - C7000	XP - C6000	XP - C3000	XP - C4000	XP - C5000	XP - C8000
			3.5"x1/4"	6"x5/16"	7"x3/8"	9"x3/8"	11.5"x3/8"	12"x1/2"	14"x1/2"
Outer Dimension	D_o	in	3-1/2	6	7	9-1/16	11-1/2	11-27/32	14
Wall Thickness	t	in	0.24	0.31	0.39	0.38	0.37	0.53	0.53
Cross Sectional Areas	A	in^2	2.4	5.5	8.1	10.4	13.1	18.9	22.5
Surface Area	SA	ft^2/ft	0.92	1.57	1.84	2.36	3.02	3.10	3.67
Moment of Inertia	I	in^4	3.24	22.32	44.25	98.24	204.45	303.34	512.52
Weight	W	lb/ft	2.10	4.97	7.10	9.07	11.46	16.56	19.82
Moment Capacity*	M_u	kip.ft	32.2^	35.5^	68.2^	95.9#	97.6#	253.9#	290.9#
Full Section Flexural Modulus	E_f	ksi	5801.5	5801.5	5801.5	5801.5	5801.5	5801.5	5801.5
Tensile Strength (L)	F_{Lt}	ksi	58	92	92	92	92	92	92
Tensile Modulus (L)	E_{Lt}	ksi	4715	5135	5135	5135	5135	5135	5135
Compressive Strength (L)	F_{Lc}	ksi	38.7	57.3	57.3	57.3	57.3	57.3	57.3
Compressive Modulus (L)	E_{Lc}	ksi	5685	5972	5972	5972	5972	5972	5972
In Plane Shear Stress (L)	F_{Lv}	ksi	7.5	13.5	13.5	13.5	13.5	13.5	13.5

^ Experimental moment capacity obtained from full-scale four-point bend test as per ASTM D6109. In cantilever configurations (ASTM D1036), presented moment capacities are less by no more than 20%.
# Experimental moment capacity obtained from full-scale cantilever pole test as per ASTM D1036.
* In the context of this manual Reference capacities include Φ factor but not λ and C factors.