



TUBE-WALL SYSTEMS

High Modulus Wall Solutions > King Pile Systems > Tube-Wall Systems

TUBE-WALL SYSTEMS FD-180

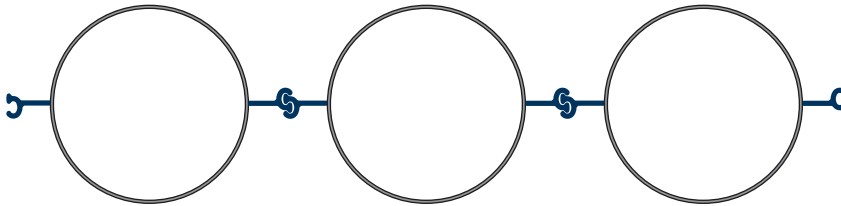
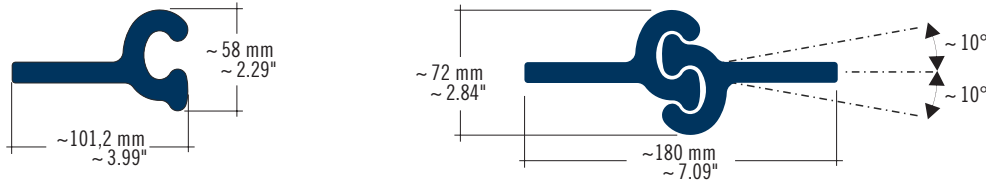
System	Section Modulus (Z)	Moment of Inertia (I)	Total Width (W)	Outside Dia (OD)	Wall Thickness (T)	Inside Dia (ID)	Weight *
	in ³ /ft (cm ³ /m)	in ⁴ /ft (cm ⁴ /m)	Inch (mm/cm)	Inch (mm/cm)	Inch (mm/cm)	Inch (mm/cm)	lb/ft (kg/m)
PP180 - 38	69.80 3,753	1,044 142,976	37.09 942/94.2	30.0 762.0/76.2	0.315 8.0/0.80	29.4 746.0/74.6	99.95 148.7
PP180 - 41	75.50 4,059	1,204 164,966	39.09 993/99.3	32.0 812.8/81.3	0.315 8.0/0.80	31.4 796.8/79.7	106.69 158.8
PP180 - 44	82.56 4,439	1,235 169,122	37.09 942/94.2	30.0 762.0/76.2	0.375 9.5/0.95	29.3 743.0/74.3	118.71 176.7
PP180 - 48	89.34 4,803	1,425 195,208	39.09 993/99.3	32.0 812.8/81.3	0.375 9.5/0.95	31.3 793.8/79.4	126.72 188.6
PP180 - 52	96.15 5,169	1,629 223,209	41.09 1044/104.4	34.0 863.6/86.4	0.375 9.5/0.95	33.3 844.6/84.5	134.73 200.5
PP180 - 59	109.83 5,905	2,080 284,968	45.09 1145/114.5	38.0 965.2/96.5	0.375 9.5/0.95	37.3 946.2/94.6	150.76 224.4
PP180 - 63	116.70 6,274	2,327 318,728	47.09 1196/119.6	40.0 1016.0/101.6	0.375 9.5/0.95	39.3 997.0/99.7	158.78 236.3
PP180 - 66	123.58 6,644	2,587 354,409	49.09 1247/124.7	42.0 1066.8/106.7	0.375 9.5/0.95	41.3 1047.8/104.8	166.79 248.2
PP180 - 70	130.48 7,015	2,862 392,014	51.09 1298/129.8	44.0 1117.6/111.8	0.375 9.5/0.95	43.3 1098.6/109.9	174.80 260.1
PP180 - 74	137.40 7,387	3,150 431,542	53.09 1348/134.8	46.0 1168.4/116.8	0.375 9.5/0.95	45.3 1149.4/114.9	182.82 272.1
PP180 - 78	144.32 7,759	3,453 472,994	55.09 1399/139.9	48.0 1219.2/121.9	0.375 9.5/0.95	47.3 1200.2/120.0	190.83 284
PP180 - 81	151.25 8,132	3,770 516,370	57.09 1450/145.0	50.0 1270.0/127.0	0.375 9.5/0.95	49.3 1251.0/125.1	198.85 295.9
PP180 - 85	158.19 8,505	4,100 561,672	59.09 1501/150.1	52.0 1320.8/132.1	0.375 9.5/0.95	51.3 1301.8/130.2	206.86 307.8
PP180 - 89	165.14 8,879	4,445 608,900	61.09 1552/155.2	54.0 1371.6/137.2	0.375 9.5/0.95	53.3 1352.6/135.3	214.87 319.8
PP180 - 93	172.10 9,253	4,804 658,054	63.09 1602/160.2	56.0 1422.4/142.2	0.375 9.5/0.95	55.3 1403.4/140.3	222.89 331.7
PP180 - 96	179.06 9,627	5,177 709,134	65.09 1653/165.3	58.0 1473.2/147.3	0.375 9.5/0.95	57.3 1454.2/145.4	230.90 343.6
PP180 - 100	186.03 10,002	5,564 762,140	67.09 1704/170.4	60.0 1524.0/152.4	0.375 9.5/0.95	59.3 1505.0/150.5	238.91 355.5
PP180 - 105	195.80 10,527	5,856 802,162	67.09 1704/170.4	60.0 1524.0/152.4	0.395 10.0/1.00	59.2 1503.9/150.4	251.63 374.5
PP180 - 116	216.23 11,626	6,467 885,864	67.09 1704/170.4	60.0 1524.0/152.4	0.437 11.1/1.11	59.1 1501.8/150.2	278.28 414.1
PP180 - 125	233.35 12,546	6,979 955,992	67.09 1704/170.4	60.0 1524.0/152.4	0.472 12.0/1.20	59.1 1500.0/150.0	300.66 447.4
PP180 - 128	237.33 12,760	6,861 939,887	65.09 1653/165.3	58.0 1473.2/147.3	0.500 12.7/1.27	57.0 1447.8/144.8	307.36 457.4
PP180 - 133	246.62 13,259	7,376 1,010,361	67.09 1704/170.4	60.0 1524.0/152.4	0.500 12.7/1.27	59.0 1498.6/149.9	318.05 473.3
PP180 - 137	255.57 13,740	7,134 977,194	63.09 1602/160.2	56.0 1422.4/142.2	0.562 14.3/1.43	54.9 1393.8/139.4	333.20 495.9
PP180 - 154	286.70 15,414	8,860 1,213,693	69.09 1755/175.5	62.0 1574.8/157.5	0.562 14.3/1.43	60.9 1546.3/154.6	369.01 549.1
PP180 - 171	318.07 17,100	9,829 1,346,478	69.09 1755/175.5	62.0 1574.8/157.5	0.625 15.9/1.59	60.7 1543.0/154.3	410.22 610.5
PP180 - 201	374.23 20,120	12,311 1,686,447	73.09 1856/185.6	66.0 1676.4/167.6	0.687 17.5/1.75	64.6 1641.5/164.1	479.97 714.3
PP180 - 241	449.28 24,155	16,124 2,208,730	79.09 2009/200.9	72.0 1828.8/182.9	0.750 19.1/1.91	70.5 1790.7/179.1	571.59 850.6
PP180 - 334	621.27 33,402	27,870 3,817,812	97.09 2466/246.6	90.0 2286.0/228.6	0.812 20.6/2.06	88.4 2244.8/224.5	774.06 1152
PP180 - 483	897.56 48,256	52,791 7,231,621	125.09 3177/317.7	118.0 2997.2/299.7	0.875 22.2/2.22	116.3 2952.8/295.3	1095.39 1630

* Weights listed are based on theoretical weight of pipewall without connectors.
 PP180 family of Pipe walls are constructed using designated pipes & 180mm interlocking connectors
 Steelwall LBP180 series (180mm Larssen interlock connectors) are available through JD Fields & Co

TUBE-WALL SYSTEMS

High Modulus Wall Solutions > King Pile Systems > Tube-Wall Systems

TUBE-WALL SYSTEM FD-180 CONNECTORS



TUBE-WALL SYSTEM FD-180 CALCULATION FORMULAS

Z = Section Modulus (expressed as cm³) **ID** = Inside Diameter of Pipe
I = Moment of Inertia (expressed as cm⁴) **C** = Connector spacing as attached (gap)
 π = Pi **W** = OD + C (outside diameter of pipe + connector)
OD = Outside Diameter of Pipe **T** = Thickness (of pipe wall)

Moment of Inertia (cm⁴)

$$I_a = \frac{\pi}{64} \times (OD^4 - ID^4)$$

Moment of Inertia per 1 meter of steel pipe wall (cm⁴/m):

$$I = I_a \times \frac{100}{W}$$

Section Modulus (cm³)

$$Z_a = \frac{\pi}{32} \times \frac{(OD^4 - ID^4)}{W}$$

Section Modulus per 1 meter of steel pipe wall (cm³/m):

$$Z = Z_a \times \frac{100}{W}$$

Unit weight **W = 0.02466T x (OD-T) (kg/m)**



TUBE-WALL SYSTEMS

High Modulus Wall Solutions > King Pile Systems > Tube-Wall Systems

TUBE-WALL SYSTEM PPN-065

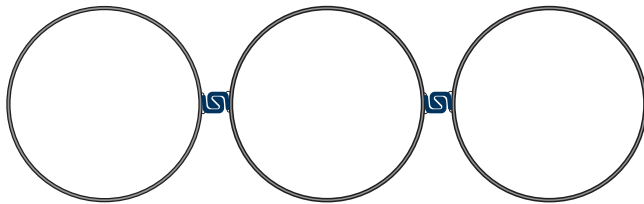
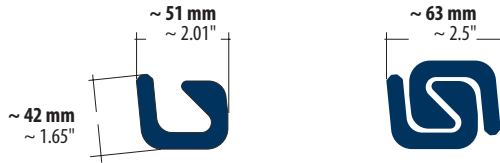
System	Section Modulus (Z)	Moment of Inertia (I)	Total Width (W)	Outside Dia (OD)	Wall Thickness (T)	Inside Dia (ID)	Weight
	in ³ /ft (cm ³ /m)	in ⁴ /ft (cm ⁴ /m)	Inch (mm)	Inch (mm)	Inch (mm)	Inch (mm)	lb/ft (kg/m)
PP065 - 43	79.51 4,274	1,189 162,857	32.56 827	30.0 762.0	0.315 8.0	29.4 746.0	99.95 148.7
PP065 - 46	85.39 4,591	1,362 186,578	34.56 878	32.0 812.8	0.315 8.0	31.4 796.8	106.69 158.8
PP065 - 50	94.04 5,056	1,406 192,640	32.56 827	30.0 762.0	0.375 9.5	29.3 743.0	118.71 176.7
PP065 - 54	101.05 5,433	1,612 220,782	34.56 878	32.0 812.8	0.375 9.5	31.3 793.8	126.72 188.6
PP065 - 58	108.06 5,809	1,831 250,852	36.56 929	34.0 863.6	0.375 9.5	33.3 844.6	134.73 200.5
PP065 - 66	122.09 6,564	2,312 316,779	40.56 1030	38.0 965.2	0.375 9.5	37.3 946.2	150.76 224.4
PP065 - 70	129.11 6,942	2,574 352,635	42.56 1081	40.0 1016.0	0.375 9.5	39.3 997.0	158.78 236.3
PP065 - 73	136.14 7,319	2,850 390,420	44.56 1132	42.0 1066.8	0.375 9.5	41.3 1047.8	166.79 248.2
PP065 - 77	143.17 7,697	3,140 430,134	46.56 1183	44.0 1117.6	0.375 9.5	43.3 1098.6	174.80 260.1
PP065 - 80	150.21 8,076	3,444 471,778	48.56 1233	46.0 1168.4	0.375 9.5	45.3 1149.4	182.82 272.1
PP065 - 85	157.24 8,454	3,762 515,350	50.56 1284	48.0 1219.2	0.375 9.5	47.3 1200.2	190.83 284
PP065 - 88	164.28 8,832	4,094 560,852	52.56 1335	50.0 1270.0	0.375 9.5	49.3 1251.0	198.85 295.9
PP065 - 92	171.32 9,211	4,440 608,283	54.56 1386	52.0 1320.8	0.375 9.5	51.3 1301.8	206.86 307.8
PP065 - 96	178.36 9,589	4,801 657,643	56.56 1437	54.0 1371.6	0.375 9.5	53.3 1352.6	214.87 319.8
PP065 - 100	185.41 9,968	5,175 708,932	58.56 1487	56.0 1422.4	0.375 9.5	55.3 1403.4	222.89 331.7
PP065 - 103	192.45 10,347	5,564 762,150	60.56 1538	58.0 1473.2	0.375 9.5	57.3 1454.2	230.90 343.6
PP065 - 107	199.50 10,726	5,966 817,298	62.56 1589	60.0 1524.0	0.375 9.5	59.3 1505.0	238.91 355.5
PP065 - 113	209.97 11,289	6,280 860,216	62.56 1589	60.0 1524.0	0.395 10.0	59.2 1503.9	251.63 374.5
PP065 - 125	231.88 12,467	6,935 949,977	62.56 1589	60.0 1524.0	0.437 11.1	59.1 1501.8	278.28 414.1
PP065 - 135	250.24 13,454	7,484 1,025,179	62.56 1589	60.0 1524.0	0.472 12.0	59.1 1500.0	300.66 447.4
PP065 - 137	255.08 13,714	7,374 1,010,155	60.56 1538	58.0 1473.2	0.500 12.7	57.0 1447.8	307.36 457.4
PP065 - 142	264.47 14,219	7,909 1,083,484	62.56 1589	60.0 1524.0	0.500 12.7	59.0 1498.6	318.05 473.3
PP065 - 148	275.32 14,802	7,685 1,052,747	58.56 1487	56.0 1422.4	0.562 14.3	54.9 1393.8	333.20 495.9
PP065 - 165	306.81 16,495	9,481 1,298,810	64.56 1640	62.0 1574.8	0.562 14.3	60.9 1546.3	369.01 549.1
PP065 - 183	340.37 18,300	10,519 1,440,907	64.56 1640	62.0 1574.8	0.625 15.9	60.7 1543.0	410.22 610.5
PP065 - 215	398.94 21,449	13,124 1,797,818	68.56 1741	66.0 1676.4	0.687 17.5	64.6 1641.5	479.97 714.3
PP065 - 256	476.56 25,622	17,103 2,342,854	74.56 1894	72.0 1828.8	0.750 19.1	70.5 1790.7	571.59 850.6
PP065 - 350	651.66 35,036	29,233 4,004,562	92.56 2351	90.0 2286.0	0.812 20.6	88.4 2244.8	774.06 1152
PP065 - 500	931.27 50,068	54,773 7,503,203	120.56 3062	118.0 2997.2	0.875 22.2	116.3 2952.8	1095.39 1630

* Weights listed are based on theoretical weight of pipewall without connectors.
 PP065 family of Pipe walls are constructed using designated pipes & 65mm interlocking connectors
 Steelwall PC8 series (65mm Larssen interlock connectors) are available through JD Fields & Co

HIGH MODULUS TUBE-WALL SYSTEMS

High Modulus Wall Solutions > King Pile Systems > High Modulus Tube-Wall Systems

TUBE-WALL SYSTEM PPN-065 CONNECTORS



TUBE-WALL SYSTEM PPN-065 CALCULATION FORMULAS

Z = Section Modulus (expressed as cm³)

ID = Inside Diameter of Pipe

I = Moment of Inertia (expressed as cm⁴)

C = Connector spacing as attached (gap)

π = Pi

W = OD + C (outside diameter of pipe + connector)

OD = Outside Diameter of Pipe

T = Thickness (of pipe wall)

Moment of Inertia (cm⁴)

$$I_a = \frac{\pi}{64} \times (OD^4 - ID^4)$$

Moment of Inertia per 1 meter of steel pipe wall (cm⁴/m):

$$I = I_a \times \frac{100}{W}$$

Section Modulus (cm³)

$$Z_a = \frac{\pi}{32} \times \frac{(OD^4 - ID^4)}{W}$$

Section Modulus per 1 meter of steel pipe wall (cm³/m):

$$Z = Z_a \times \frac{100}{W}$$

Unit weight **W = 0.02466T x (OD-T) (kg/m)**