



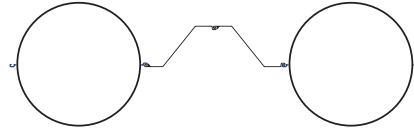
# Combined wall & Pipe pile/sheet pile

ON THIS DOCUMENT SOME EXAMPLE COMBI WALL DESIGNS

MANY MORE DESIGNS AVAILABLE.

PLEASE SEND US THE PROJECT REQUIREMENTS.

Combined wall with pipes and  
Z-Section with Connector LPB 100

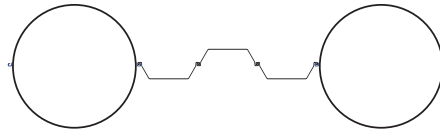


| Pipe Pile<br>Diameter x WT | Sheet Pile<br>double | System<br>Width | Section<br>Modules                        | Moment<br>of Inertia                      | sheet pile length in % to pipe length    |   |   | Coating<br>both sides                    |
|----------------------------|----------------------|-----------------|---|---|--|---|---|--|
|                            |                      |                 |   |   | 100%                                     | 80%                                       | 60%                                       |  |
| inch<br>mm                 | Z- section           | inch<br>mm      | in <sup>3</sup> /ft<br>cm <sup>3</sup> /m | in <sup>4</sup> /ft<br>cm <sup>4</sup> /m | lbs/ft <sup>2</sup><br>kg/m <sup>2</sup> | lbs /ft <sup>2</sup><br>kg/m <sup>2</sup> | lbs /ft <sup>2</sup><br>kg/m <sup>2</sup> | ft <sup>2</sup> /ft<br>m <sup>2</sup> /m |
| 36 x 0.438<br>914.4 x 11.1 | MZ 19-700            | 93.62           | 62.5                                      | 1299                                      | 36.7                                     | 33.6                                      | 30.5                                      | 21.6                                     |
|                            |                      | 2378            | 3360                                      | 177403                                    | 179.2                                    | 164.2                                     | 149.2                                     | 6.6                                      |
| 42 x 0.500<br>1067 x 12.7  | MZ 19-700            | 99.62           | 85.4                                      | 1993                                      | 41.2                                     | 38.3                                      | 35.4                                      | 23.2                                     |
|                            |                      | 2530            | 4593                                      | 272215                                    | 201.0                                    | 186.9                                     | 172.8                                     | 7.1                                      |
| 48 x 0.500<br>1219 x 12.7  | MZ 19-700            | 105.62          | 102.6                                     | 2682                                      | 42.5                                     | 39.8                                      | 37.0                                      | 24.8                                     |
|                            |                      | 2683            | 5516                                      | 366235                                    | 207.4                                    | 194.1                                     | 180.8                                     | 7.6                                      |
| 36 x 0.500<br>914.4 x 12.7 | MZ 26-700            | 93.62           | 74.5                                      | 1588                                      | 43.7                                     | 39.8                                      | 35.9                                      | 22.1                                     |
|                            |                      | 2378            | 4005                                      | 216868                                    | 213.1                                    | 194.2                                     | 175.4                                     | 6.7                                      |
| 42 x 0.625<br>1067 x 15.9  | MZ 26-700            | 99.62           | 108.1                                     | 2555                                      | 51.5                                     | 47.8                                      | 44.2                                      | 23.7                                     |
|                            |                      | 2530            | 5812                                      | 348961                                    | 251.3                                    | 233.5                                     | 215.8                                     | 7.2                                      |
| 48 x 0.625<br>1219 x 15.9  | MZ 26-700            | 105.62          | 129.1                                     | 3409                                      | 53.1                                     | 49.7                                      | 46.2                                      | 25.2                                     |
|                            |                      | 2683            | 6941                                      | 465486                                    | 259                                      | 242.5                                     | 225.8                                     | 7.7                                      |

## Pipe piles & sheet piles.

For more stiffness and bending resistance pipe piles and sheet piles are used in conjunction with each other. Pipes piles get interlocks welded on 2 sides to connect with the sheet piles which are placed in between the pipe piles. On the right some optional combinations with pipes and sheet piles. Other combinations are also available.

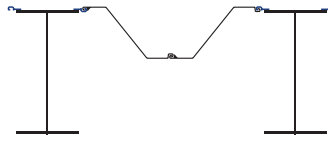
Combined Wall with pipes and  
Larsen U-section Connector L8



| Pipe Pile<br>Diameter x WT | Sheet Pile<br>double | System<br>Width | Section<br>Modules                        | Moment<br>of Inertia                      | sheet pile length in % to pipe length    |   |   | Coating<br>both sides                    |
|----------------------------|----------------------|-----------------|---|---|--|---|---|--|
|                            |                      |                 |   |   | 100%                                     | 80%                                       | 60%                                       |  |
| inch<br>mm                 | Z- section           | inch<br>mm      | in <sup>3</sup> /ft<br>cm <sup>3</sup> /m | in <sup>4</sup> /ft<br>cm <sup>4</sup> /m | lbs/ft <sup>2</sup><br>kg/m <sup>2</sup> | lbs /ft <sup>2</sup><br>kg/m <sup>2</sup> | lbs /ft <sup>2</sup><br>kg/m <sup>2</sup> | ft <sup>2</sup> /ft<br>m <sup>2</sup> /m |
| 36 x 0.438<br>914.4 x 11.1 | ML 603               | 109.4           | 51.7                                      | 931.1                                     | 34.0                                     | 30.8                                      | 27.6                                      | 25.2                                     |
|                            |                      | 2778            | 2781                                      | 127144                                    | 165.7                                    | 150.4                                     | 135.0                                     | 7,68                                     |
| 42 x 0.500<br>1067 x 12.7  | ML 603               | 115.4           | 73.3                                      | 1540.2                                    | 38.0                                     | 35.0                                      | 32.0                                      | 26.8                                     |
|                            |                      | 2931            | 3942                                      | 210331                                    | 185.3                                    | 170.8                                     | 156.3                                     | 8,16                                     |
| 48 x 0.500<br>1219 x 12.7  | ML 603               | 121.4           | 89.8                                      | 2155.7                                    | 231.6                                    | 213.4                                     | 195.2                                     | 28.4                                     |
|                            |                      | 3083            | 4829                                      | 294359                                    | 191.7                                    | 177.8                                     | 164.0                                     | 8,64                                     |
| 36 x 0.500<br>914.4 x 12.7 | ML 605               | 10.4            | 63.8                                      | 1148.4                                    | 40.5                                     | 36.6                                      | 32.6                                      | 27.0                                     |
|                            |                      | 2778            | 3431                                      | 156805                                    | 197.6                                    | 178.4                                     | 159.2                                     | 8,23                                     |
| 42 x 0.625<br>1067 x 15.9  | ML 605               | 115.4           | 94.6                                      | 1988.0                                    | 47.5                                     | 43.7                                      | 39.9                                      | 28.6                                     |
|                            |                      | 2931            | 5088                                      | 271455                                    | 231.6                                    | 213.4                                     | 195.2                                     | 8,71                                     |
| 48 x 0.625<br>1219 x 15.9  | ML 605               | 121.4           | 114.6                                     | 2750.5                                    | 49.1                                     | 45.5                                      | 41.9                                      | 30.2                                     |
|                            |                      | 3083            | 6162                                      | 376573                                    | 239.5                                    | 222.3                                     | 204.9                                     | 9,19                                     |

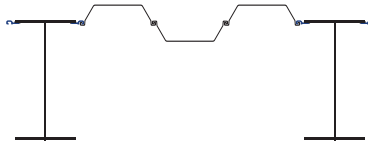


Connector LPB 180



| King pile   | Sheet Pile double | System Width | Section Modules                        | Moment of Inertia                      | sheet pile length in % to pipe length |  |  | Coating Waterside                     |
|-------------|-------------------|--------------|--|--|---------------------------------------|--|--|---------------------------------------|
|             |                   |              |  |  | 100%                                  | 80%                                    | 60%                                    |                                       |
|             | Z- section        | inch mm      | in <sup>2</sup> /ft cm <sup>2</sup> /m | in <sup>4</sup> /ft cm <sup>4</sup> /m | lbs/ft <sup>2</sup> kg/m <sup>2</sup> | lbs /ft <sup>2</sup> kg/m <sup>2</sup> | lbs /ft <sup>2</sup> kg/m <sup>2</sup> | ft <sup>2</sup> /ft m <sup>2</sup> /m |
| MHZ 880M A  | MZ 19-700         | 75.87        | 100.5                                  | 1,769                                  | 44.81                                 | 40.72                                  | 36.64                                  | 8.12                                  |
|             |                   | 1.927        | 5.403                                  | 241.653                                | 218,8                                 | 198,8                                  | 178,9                                  | 2,48                                  |
| MHZ 1080M A | MZ 19-700         | 75.71        | 144.5                                  | 3,253                                  | 51.48                                 | 47.38                                  | 43.29                                  | 8.11                                  |
|             |                   | 1.923        | 7.769                                  | 444.183                                | 251,4                                 | 231,3                                  | 211,4                                  | 2,47                                  |
| MHZ 1180M A | MZ 19-700         | 75.87        | 190.5                                  | 4,306                                  | 61.90                                 | 57.81                                  | 53.73                                  | 8.12                                  |
|             |                   | 1.927        | 10.241                                 | 588.033                                | 302,2                                 | 282,3                                  | 262,3                                  | 2,48                                  |
| MHZ 880M A  | MZ 26-700         | 75.87        | 106.7                                  | 1,878                                  | 49.67                                 | 44.61                                  | 39.56                                  | 8.37                                  |
|             |                   | 1.927        | 5.735                                  | 256.420                                | 242,5                                 | 217,8                                  | 193,1                                  | 2,55                                  |
| MHZ 1080M A | MZ 26-700         | 75.71        | 149.3                                  | 3,361                                  | 56.35                                 | 51.28                                  | 46.21                                  | 8.37                                  |
|             |                   | 1.923        | 8.025                                  | 458.990                                | 275,1                                 | 250,3                                  | 225,6                                  | 2,55                                  |
| MHZ 1180M A | MZ 26-700         | 75.87        | 195.3                                  | 4,414                                  | 66.76                                 | 61.70                                  | 56.64                                  | 8.37                                  |
|             |                   | 1.927        | 10.500                                 | 602.790                                | 325,9                                 | 301,2                                  | 276,5                                  | 2,55                                  |

Connector LPB 180



| King pile   | Sheet Pile double | System Width | Section Modules                        | Moment of Inertia                      | sheet pile length in % to pipe length |  |  | Coating Waterside                     |
|-------------|-------------------|--------------|--|--|---------------------------------------|--|--|---------------------------------------|
|             |                   |              |  |  | 100%                                  | 80%                                    | 60%                                    |                                       |
|             | Z- section        | inch mm      | in <sup>2</sup> /ft cm <sup>2</sup> /m | in <sup>4</sup> /ft cm <sup>4</sup> /m | lbs/ft <sup>2</sup> kg/m <sup>2</sup> | lbs /ft <sup>2</sup> kg/m <sup>2</sup> | lbs /ft <sup>2</sup> kg/m <sup>2</sup> | ft <sup>2</sup> /ft m <sup>2</sup> /m |
| MHZ 880M A  | ML 603            | 92.83        | 77.9                                   | 1,328                                  | 35.85                                 | 32.51                                  | 29.58                                  | 9.90                                  |
|             |                   | 2.358        | 4.101                                  | 189.687                                | 174,9                                 | 158,6                                  | 144,3                                  | 3,02                                  |
| MHZ 1080M A | ML 603            | 92.68        | 115.2                                  | 2,489                                  | 41.28                                 | 38.14                                  | 35.00                                  | 9.88                                  |
|             |                   | 2.354        | 6.061                                  | 355.539                                | 201,4                                 | 186,1                                  | 170,7                                  | 3,02                                  |
| MHZ 1180M A | ML 603            | 92.83        | 156.5                                  | 3,316                                  | 49.85                                 | 46.72                                  | 43.58                                  | 9.89                                  |
|             |                   | 2.358        | 8.238                                  | 473.730                                | 243,2                                 | 227,9                                  | 212,6                                  | 3,02                                  |
| MHZ 880M A  | ML 605            | 92.83        | 84.6                                   | 1,442                                  | 39.51                                 | 35.65                                  | 31.78                                  | 10.80                                 |
|             |                   | 2.358        | 4.454                                  | 206.003                                | 192,8                                 | 173,9                                  | 155,0                                  | 3,30                                  |
| MHZ 1080M A | ML 605            | 92.68        | 120.5                                  | 2,603                                  | 44.95                                 | 41.08                                  | 37.21                                  | 10.78                                 |
|             |                   | 2.354        | 6.340                                  | 371.872                                | 219,3                                 | 200,4                                  | 181,5                                  | 3,29                                  |
| MHZ 1180M A | ML 605            | 92.83        | 161.9                                  | 3,430                                  | 53.52                                 | 49.65                                  | 45.78                                  | 10.79                                 |
|             |                   | 2.358        | 8.522                                  | 490.035                                | 261,1                                 | 242,2                                  | 223,3                                  | 3,30                                  |



## H-piles & Sheet piles

H-piles are also used in conjunction with sheet piles to achieve more stiffness and bending resistance. H-piles get interlocks welded on 2 sides of the flange to connect with the sheet piles. Below some optional combinations with H-piles and sheet piles. Other combinations are also available.

