

Torres 450 Reforzada

| ALTURA (m) | | 51 | | 54 | | 57 | | 60 | | 63 | | 66 | | 69 | | 72 | | 75 | | 78 | | 81 | | 84 | | | | | | | | | |
|---------------------------------------|---|--------------------|---------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|--------|---------|-----|-------|-----|-------|----|-------|
| | | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | CanL. | Ref. | | | | | | |
| COMPOSICIÓN | Base basculante | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | 1 | 18023 | | | | |
| | Tramo intermedio | 9 | 15009 | 9 | 15009 | 10 | 15009 | 10 | 15009 | 11 | 15009 | 11 | 15009 | 12 | 15009 | 12 | 15009 | 13 | 15009 | 13 | 15009 | 14 | 15009 | 14 | 15009 | 14 | 15009 | 14 | 15009 | 14 | 15009 | | |
| | Tramo intermedio | 8 | 15010 | 9 | 15010 | 9 | 15010 | 10 | 15010 | 10 | 15010 | 11 | 15010 | 11 | 15010 | 12 | 15010 | 12 | 15010 | 13 | 15010 | 13 | 15010 | 13 | 15010 | 13 | 15010 | 14 | 15010 | 14 | 15010 | 14 | 15010 |
| | Sombbrero superior | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 |
| SOLIC. | Carga vertical sobre la base en N. (Kg) | 173,489 | (17703) | 179,742 | (18,341) | 185,788 | (18,968) | 195,539 | (18,958) | 210,367 | (21,486) | 216,619 | (22,104) | 222,881 | (22,743) | 232,711 | (23,746) | 248,468 | (25,354) | 249,518 | (25,461) | 265,296 | (27,071) | 262,787 | (26,815) | | | | | | | | |
| | Carga horizontal sobre la base en N. (Kg) | 1,833 | (187) | 1,833 | (187) | 1,833 | (187) | 2,607 | (187) | 1,833 | (187) | 1,833 | (187) | 1,833 | (187) | 2,607 | (266) | 1,833 | (187) | 1,833 | (187) | 1,362 | (139) | 1,833 | (187) | | | | | | | | |
| | Carga máx. admisible de viento en N. (Kg) | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | 687 | 70 | | |
| ANCLAJES | Altura (m) desde los anclajes hasta la base | A | 9 | | 9 | | 9 | | 12 | | 9 | | 9 | | 9 | | 12 | | 9 | | 9 | | 9 | | 9 | | 12 | | | | | | |
| | | B | 21 | | 21 | | 21 | | 24 | | 21 | | 21 | | 21 | | 24 | | 21 | | 21 | | 21 | | 21 | | 24 | | | | | | |
| | | C | 33 | | 33 | | 33 | | 36 | | 33 | | 33 | | 33 | | 36 | | 33 | | 33 | | 33 | | 33 | | 36 | | | | | | |
| | | D | 45 | | 45 | | 45 | | 48 | | 45 | | 45 | | 45 | | 48 | | 45 | | 45 | | 45 | | 45 | | 48 | | | | | | |
| | | E | 50,1 | | 53,1 | | 56,1 | | 59,1 | | 57 | | 57 | | 57 | | 60 | | 57 | | 57 | | 57 | | 57 | | 60 | | | | | | |
| | | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | G | | | | | | | | | 62,1 | | 65,1 | | 68,1 | | 71,1 | | 69 | | 69 | | 69 | | 69 | | 72 | | | | | | |
| | | H | | | 23,65 | | 23,65 | | 24,95 | | 23,65 | | 23,65 | | 23,65 | | 24,95 | | 23,65 | | 23,65 | | 23,65 | | 23,65 | | 24,95 | | | | | | |
| | | I | | | 30,32 | | 30,32 | | 32,47 | | 30,32 | | 30,32 | | 30,32 | | 32,47 | | 30,32 | | 30,32 | | 30,32 | | 30,32 | | 32,47 | | | | | | |
| | | J | | | 39,59 | | 39,59 | | 42,12 | | 39,59 | | 39,59 | | 39,59 | | 42,12 | | 39,59 | | 39,59 | | 39,59 | | 39,59 | | 42,12 | | | | | | |
| | K | | | 63,45 | | 63,45 | | 65,61 | | 63,45 | | 63,45 | | 63,45 | | 65,61 | | 63,45 | | 63,45 | | 63,45 | | 63,45 | | 65,61 | | | | | | | |
| | L | | | 69,43 | | 71,75 | | 74,11 | | 72,45 | | 72,45 | | 72,45 | | 74,83 | | 72,45 | | 72,45 | | 72,45 | | 72,45 | | 74,83 | | | | | | | |
| | M | | | | | | | | | 76,53 | | 78,98 | | 81,47 | | 83,99 | | 82,23 | | 82,23 | | 82,23 | | 82,23 | | 84,78 | | | | | | | |
| | N | | | | | | | | | | | | | | | | | 86,55 | | 89,13 | | 91,74 | | 94,37 | | | | | | | | | |
| | O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | P | | | | | | | | | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 900 | (91,83) | 980 | (100) | | | | |
| | ANCLAJES CON CARGA ADICIONAL DE NIEVE | Carga de Nieve P/2 | 65,39 | | 65,39 | | 65,39 | | 65,39 | | 65,39 | | 65,39 | | 68,99 | | 68,99 | | 65,39 | | 65,39 | | 65,39 | | 65,39 | | 68,99 | | | | | | |
| | | | 83,83 | | 83,83 | | 83,83 | | 83,83 | | 83,83 | | 83,83 | | 89,78 | | 89,78 | | 83,83 | | 83,83 | | 83,83 | | 83,83 | | 89,78 | | | | | | |
| | | | 109,47 | | 109,47 | | 109,47 | | 109,47 | | 109,47 | | 109,47 | | 116,46 | | 116,46 | | 109,47 | | 109,47 | | 109,47 | | 109,47 | | 116,46 | | | | | | |
| | | | 175,44 | | 175,44 | | 175,44 | | 181,41 | | 175,44 | | 175,44 | | 175,44 | | 181,41 | | 175,44 | | 175,44 | | 175,44 | | 175,44 | | 181,41 | | | | | | |
| 186,72 | | | | 191,97 | | 198,39 | | 204,91 | | 200,32 | | 200,32 | | 200,32 | | 206,90 | | 200,32 | | 200,32 | | 200,32 | | 200,32 | | 206,90 | | | | | | | |
| | | | | | | | | | | | 211,81 | | 218,38 | | 225,26 | | 232,23 | | 227,37 | | 227,37 | | 227,37 | | 234,36 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 139,31 | | 246,44 | | 253,66 | | 280,66 | | | | | | | | |
| Longitud de vientos H>20 y H<20 | | 0 | 23,65 | 0 | 23,65 | 0 | 23,65 | 0 | 24,95 | 0 | 23,65 | 0 | 23,65 | 0 | 23,65 | 0 | 24,95 | 0 | 23,65 | 0 | 23,65 | 0 | 23,65 | 0 | 23,65 | 0 | 24,95 | | | | | | |
| | | 1,45 | 28,87 | 1,45 | 28,87 | 1,45 | 28,87 | 5,41 | 27,06 | 1,45 | 28,87 | 1,45 | 28,87 | 1,45 | 28,87 | 5,41 | 27,06 | 1,45 | 28,87 | 1,45 | 28,87 | 1,45 | 28,87 | 1,45 | 28,87 | 5,41 | 27,06 | | | | | | |
| | | 15,6 | 23,99 | 15,6 | 23,99 | 15,6 | 23,99 | 18,72 | 23,4 | 15,6 | 23,99 | 15,6 | 23,99 | 15,6 | 23,99 | 18,72 | 23,4 | 15,6 | 23,99 | 15,6 | 23,99 | 15,6 | 23,99 | 15,6 | 23,99 | 18,72 | 23,4 | | | | | | |
| | 35,25 | 28,2 | 35,25 | 28,2 | 35,25 | 28,2 | 38,28 | 27,33 | 35,25 | 28,2 | 35,25 | 28,2 | 35,25 | 28,2 | 38,28 | 27,33 | 35,25 | 28,2 | 35,25 | 28,2 | 35,25 | 28,2 | 35,25 | 28,2 | 38,28 | 27,33 | | | | | | | |
| | 40,72 | 26,81 | 43,29 | 26,14 | 46,18 | 25,57 | 49,03 | 25,08 | 47,03 | 25,42 | 47,03 | 25,42 | 47,03 | 25,42 | 49,89 | 24,94 | 47,03 | 25,42 | 47,03 | 25,42 | 47,03 | 25,42 | 47,03 | 25,42 | 49,89 | 24,94 | | | | | | | |
| | | | | | | | | | | | 51,88 | 24,65 | 54,72 | 24,65 | 57,54 | 23,93 | 60,36 | 23,63 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 63,19 | 23,36 | 66,01 | 23,12 | 68,83 | 22,91 | 71,66 | 22,71 | | | | | | | |
| Carga de viento con manguito de hielo | 59,46 | | 59,46 | | 59,46 | | 62,73 | | 59,46 | | 59,46 | | 59,46 | | 62,73 | | 59,46 | | 59,46 | | 59,46 | | 59,46 | | 62,73 | | | | | | | | |
| | 77,60 | | 77,60 | | 77,60 | | 86,74 | | 77,60 | | 77,60 | | 77,60 | | 86,74 | | 77,60 | | 77,60 | | 77,60 | | 77,60 | | 86,74 | | | | | | | | |
| | 114,25 | | 114,25 | | 114,25 | | 123,55 | | 114,25 | | 114,25 | | 114,25 | | 123,55 | | 114,25 | | 114,25 | | 114,25 | | 114,25 | | 123,55 | | | | | | | | |
| | 192,77 | | 192,77 | | 192,77 | | 201,05 | | 192,77 | | 192,77 | | 192,77 | | 201,05 | | 192,77 | | 192,77 | | 192,77 | | 192,77 | | 201,05 | | | | | | | | |
| | 208,18 | | 215,38 | | 223,94 | | 232,56 | | 226,50 | | 226,50 | | 226,50 | | 235,18 | | 226,50 | | 226,50 | | 226,50 | | 226,50 | | 235,18 | | | | | | | | |
| | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 241,33 | | 250,17 | | 259,09 | | 268,09 | | 261,81 | | 261,81 | | 261,81 | | 261,81 | | 270,83 | | | | | | | | |
| | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 0,00 | | 277,19 | | 286,34 | | 296,56 | | 304,84 | | | | | | | | | | |

| | | ALTURA (m) | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|-------|-------|
| | | 84 | | 87 | | 90 | | 93 | | 96 | | 99 | | 102 | | 105 | | 108 | | 111 | | 114 | | 117 | | | |
| | | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. | Cant. | Ref. |
| COMPOSICIÓN | Base basculante | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 | 1 | 16023 |
| | Tramo intermedio Rojo | 14 | 15009 | 15 | 15009 | 15 | 15009 | 16 | 15009 | 16 | 15009 | 17 | 15009 | 17 | 15009 | 18 | 15009 | 18 | 15009 | 19 | 15009 | 19 | 15009 | 20 | 15009 | 20 | 15009 |
| | Tramo intermedio Blanco | 14 | 15010 | 14 | 15010 | 15 | 15010 | 15 | 15010 | 16 | 15010 | 16 | 15010 | 17 | 15010 | 17 | 15010 | 18 | 15010 | 18 | 15010 | 19 | 15010 | 19 | 15010 | 19 | 15010 |
| | Sombrero superior | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 | 1 | 15011 |
| ANCLAJES | Carga vertical sobre la base en N. (Kg) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Carga horizontal sobre la base en N. (Kg) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Carga máx. admisible de viento en N. (Kg) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Altura (m) desde los anclajes hasta la base | A | 12 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | | |
| | | B | 24 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | |
| | | C | 36 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | 33 | | |
| | | D | 48 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | 45 | | |
| | | E | 60 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | 57 | | |
| | | F | 72 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | 69 | | |
| | | G | 83,1 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | 81 | | |
| | | H | | | 86,1 | | 88,1 | | 92,1 | | 90 | | 93 | | 93 | | 93 | | 93 | | 93 | | 93 | | 93 | | |
| | | I | | | | | | | | | 95,1 | | 98,1 | | 101,1 | | 104,1 | | 102 | | 102 | | 105 | | 105 | | |
| | | J | | | | | | | | | | | | | | | | | 107,1 | | 110,1 | | 113,1 | | 116,1 | | |
| | Longitud total del cable de vientos (m) | K | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | 24,95 | | |
| | | L | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | 32,47 | | |
| | | M | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | 42,12 | | |
| N | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | 65,61 | | | |
| O | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | 74,83 | | | |
| P | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | 84,76 | | | |
| Q | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | 94,37 | | | |
| R | | | | 108,92 | | 111,31 | | 113,72 | | 111,31 | | 111,31 | | 111,31 | | 111,31 | | 111,31 | | 111,31 | | 111,31 | | 111,31 | | | |
| S | | | | | | | | | | 116,17 | | 118,64 | | 121,13 | | 123,64 | | 121,88 | | 121,88 | | 124,40 | | 124,40 | | | |
| T | | | | | | | | | | | | | | | | | | 126,13 | | 128,73 | | 131,31 | | 133,90 | | | |
| Tensión inicial del cable en N (kg) | K | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | 1900 (193,87) | | | |
| | L | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | 2900 (295,91) | | | |
| | M | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | 4100 (418,36) | | | |
| | N | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | | |
| | O | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | 3300 (336,73) | | | |
| | P | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | 900 (91,83) | | | |
| | Q | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | | |
| | R | | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | | |
| | S | | | | | | | | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | | |
| | T | | | | | | | | | | | | | | | | | 980 (100) | | 980 (100) | | 980 (100) | | 980 (100) | | | |