

This chart is based on the Engineering News Record (ENR) formula for pile bearing capacity and is provided as a convenience only.

Pile bearing (Tons) = $2E/(S + 0.1)/2000$, where **E = Hammer energy (given by the Saximeter formula)**
S = Pile set (inch per blow)

| Blow per Minute | Ram Stroke (ft) | Hammer Energy (lb.ft) | Pile Set (Blows per inch) | | | | | | | | | | | |
|-----------------|-----------------|-----------------------|---------------------------|-----|------|------|------|------|------|------|------|------|------|------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 35 | 11.52 | 571,584 | 520 | 953 | 1319 | 1633 | 1905 | 2143 | 2354 | 2540 | 2708 | 2858 | 2994 | 3118 |
| 36 | 10.88 | 539,455 | 490 | 899 | 1245 | 1541 | 1798 | 2023 | 2221 | 2398 | 2555 | 2697 | 2826 | 2942 |
| 37 | 10.28 | 509,896 | 464 | 850 | 1177 | 1457 | 1700 | 1912 | 2100 | 2266 | 2415 | 2549 | 2671 | 2781 |
| 38 | 9.73 | 482,640 | 439 | 804 | 1114 | 1379 | 1609 | 1810 | 1987 | 2145 | 2286 | 2413 | 2528 | 2633 |
| 39 | 9.22 | 457,453 | 416 | 762 | 1056 | 1307 | 1525 | 1715 | 1884 | 2033 | 2167 | 2287 | 2396 | 2495 |
| 40 | 8.75 | 434,131 | 395 | 724 | 1002 | 1240 | 1447 | 1628 | 1788 | 1929 | 2056 | 2171 | 2274 | 2368 |
| 41 | 8.32 | 412,495 | 375 | 687 | 952 | 1179 | 1375 | 1547 | 1699 | 1833 | 1954 | 2062 | 2161 | 2250 |
| 42 | 7.91 | 392,386 | 357 | 654 | 906 | 1121 | 1308 | 1471 | 1616 | 1744 | 1859 | 1962 | 2055 | 2140 |
| 43 | 7.53 | 373,664 | 340 | 623 | 862 | 1068 | 1246 | 1401 | 1539 | 1661 | 1770 | 1868 | 1957 | 2038 |
| 44 | 7.18 | 356,204 | 324 | 594 | 822 | 1018 | 1187 | 1336 | 1467 | 1583 | 1687 | 1781 | 1866 | 1943 |
| 45 | 6.85 | 339,894 | 309 | 566 | 784 | 971 | 1133 | 1275 | 1400 | 1511 | 1610 | 1699 | 1780 | 1854 |
| 46 | 6.54 | 324,637 | 295 | 541 | 749 | 928 | 1082 | 1217 | 1337 | 1443 | 1538 | 1623 | 1700 | 1771 |
| 47 | 6.26 | 310,343 | 282 | 517 | 716 | 887 | 1034 | 1164 | 1278 | 1379 | 1470 | 1552 | 1626 | 1693 |
| 48 | 5.99 | 296,933 | 270 | 495 | 685 | 848 | 990 | 1113 | 1223 | 1320 | 1407 | 1485 | 1555 | 1620 |
| 49 | 5.73 | 284,336 | 258 | 474 | 656 | 812 | 948 | 1066 | 1171 | 1264 | 1347 | 1422 | 1489 | 1551 |
| 50 | 5.49 | 272,487 | 248 | 454 | 629 | 779 | 908 | 1022 | 1122 | 1211 | 1291 | 1362 | 1427 | 1486 |
| 51 | 5.27 | 261,328 | 238 | 436 | 603 | 747 | 871 | 980 | 1076 | 1161 | 1238 | 1307 | 1369 | 1425 |
| 52 | 5.06 | 250,807 | 228 | 418 | 579 | 717 | 836 | 941 | 1033 | 1115 | 1188 | 1254 | 1314 | 1368 |

Caution: Driving at more than 20 blows per inch (set of 0.05 inch per blow) is considered practical refusal.

This chart is based on the Engineering News Record (ENR) formula for pile bearing capacity and is provided as a convenience only.

Pile bearing (kN) = $100E/(S + 0.254)/6$, where

E = Hammer energy (given by the Saximeter formula)

S = Pile set (cm per blow)

| Blows per Minute | Ram Stroke (m) | Hammer Energy (kJ) | Pile Set (Blows per 2cm) | | | | | | | | | | | |
|------------------|----------------|--------------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 35 | 3.51 | 776 | 19764 | 22008 | 23950 | 25647 | 27143 | 28471 | 29659 | 30727 | 31693 | 32571 | 33372 | 34105 |
| 36 | 3.32 | 732 | 18654 | 20771 | 22604 | 24206 | 25618 | 26871 | 27993 | 29001 | 29912 | 30741 | 31497 | 32189 |
| 37 | 3.13 | 692 | 17632 | 19634 | 21366 | 22880 | 24214 | 25400 | 26459 | 27412 | 28274 | 29057 | 29771 | 30426 |
| 38 | 2.97 | 655 | 16690 | 18585 | 20224 | 21657 | 22921 | 24043 | 25046 | 25948 | 26763 | 27504 | 28181 | 28800 |
| 39 | 2.81 | 621 | 15820 | 17615 | 19169 | 20528 | 21725 | 22789 | 23739 | 24594 | 25367 | 26070 | 26711 | 27298 |
| 40 | 2.67 | 589 | 15013 | 16718 | 18193 | 19482 | 20618 | 21627 | 22530 | 23341 | 24075 | 24741 | 25350 | 25907 |
| 41 | 2.54 | 560 | 14266 | 15885 | 17286 | 18511 | 19591 | 20550 | 21407 | 22178 | 22876 | 23509 | 24087 | 24617 |
| 42 | 2.41 | 533 | 13571 | 15111 | 16444 | 17609 | 18637 | 19549 | 20364 | 21098 | 21761 | 22364 | 22914 | 23417 |
| 43 | 2.30 | 507 | 12923 | 14390 | 15660 | 16770 | 17748 | 18617 | 19393 | 20092 | 20723 | 21297 | 21821 | 22301 |
| 44 | 2.19 | 483 | 12320 | 13718 | 14929 | 15987 | 16919 | 17747 | 18488 | 19154 | 19756 | 20303 | 20802 | 21259 |
| 45 | 2.09 | 461 | 11756 | 13091 | 14246 | 15255 | 16145 | 16935 | 17642 | 18277 | 18852 | 19374 | 19850 | 20287 |
| 46 | 2.00 | 441 | 11229 | 12503 | 13607 | 14571 | 15421 | 16176 | 16850 | 17457 | 18006 | 18505 | 18960 | 19377 |
| 47 | 1.91 | 421 | 10735 | 11953 | 13008 | 13930 | 14742 | 15464 | 16109 | 16689 | 17214 | 17690 | 18125 | 18524 |
| 48 | 1.83 | 403 | 10271 | 11437 | 12446 | 13328 | 14106 | 14796 | 15413 | 15969 | 16471 | 16927 | 17343 | 17724 |
| 49 | 1.75 | 386 | 9836 | 10952 | 11919 | 12763 | 13508 | 14169 | 14760 | 15292 | 15772 | 16209 | 16608 | 16973 |
| 50 | 1.68 | 370 | 9426 | 10496 | 11422 | 12232 | 12945 | 13579 | 14145 | 14655 | 15116 | 15534 | 15916 | 16266 |
| 51 | 1.61 | 355 | 9041 | 10067 | 10955 | 11731 | 12416 | 13023 | 13567 | 14055 | 14497 | 14899 | 15265 | 15601 |
| 52 | 1.54 | 340 | 8677 | 9662 | 10514 | 11259 | 11916 | 12499 | 13021 | 13490 | 13914 | 14299 | 14651 | 14973 |

Caution: Driving at more than 8 blows per cm (set of 0.125 cm per blow) is considered practical refusal.