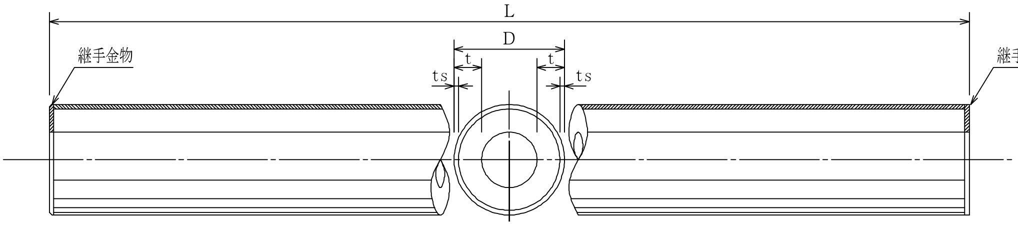
# ＳＣ･ＭＡＳパイル

『ＳＣ･ＭＡＳパイル』は、コンクリートの設計基準強度８５N/㎟の外殻鋼管付きコンクリートくいであり
ＪＩＳマーク表示認証Ⅱ類および（一財）日本建築センター基礎評定委員会の評定を取得した製品です。

**【標準断面図】**




**【設計諸数値】**

■コンクリートの許容応力度

| 基準強度 ($N/mm^2$) | 長期許容応力度 ($N/mm^2$) | 短期許容応力度 ($N/mm^2$) |
|---|---|---|
| | 圧縮 | 圧縮 |
| 85 | 24 | 48 |

■鋼管の許容応力度

| 鋼管の種類 | 長期許容応力度 ($N/mm^2$) | | | | 短期許容応力度 ($N/mm^2$) | | | |
|---|---|---|---|---|---|---|---|---|
| | 圧縮 | 引張 | 曲げ | せん断 | 圧縮 | 引張 | 曲げ | せん断 |
| SKK400相当品 | 157 | 157 | 157 | 90 | 235 | 235 | 235 | 135 |
| SKK490相当品 | 217 | 217 | 217 | 125 | 325 | 325 | 325 | 188 |

**【断面性能表】（φ300㎜～φ400㎜）** （腐食代 1㎜）

| 外径 D (mm) | 厚さ t (mm) | 鋼管厚 ts (mm) | 長さ L (m) | 鋼管断面積 $As \times 10^2$ ($mm^2$) | ｺﾝｸﾘｰﾄ断面積 $Ac \times 10^2$ ($mm^2$) | 換算断面積 $Ae \times 10^2$ ($mm^2$) | 換算断面二次モーメント $Ie \times 10^4$ ($mm^4$) | 参考質量〈腐食0mm〉W (t/m) |
|---|---|---|---|---|---|---|---|---|
| 300 | 60 | 4.5 | 4～15 | 32.38 | 411 | 573 | 47,603 | 0.136 |
| | | 6.0 | | 46.02 | 397 | 627 | 53,320 | 0.143 |
| | | 9.0 | | 72.88 | 370 | 734 | 64,229 | 0.157 |
| | | 12.0 | | 99.18 | 344 | 840 | 74,465 | 0.171 |
| 318.5 | 69 | 4.5 | 4～15 | 34.42 | 496 | 668 | 60,907 | 0.159 |
| | | 5.0 | | 39.27 | 492 | 688 | 63,224 | 0.162 |
| | | 6.0 | | 48.93 | 482 | 727 | 67,791 | 0.167 |
| | | 6.4 | | 52.78 | 478 | 742 | 69,593 | 0.169 |
| | | ○ 6.9 | | 57.57 | 473 | 761 | 71,826 | 0.171 |
| | | 8.0 | | 68.06 | 463 | 803 | 76,661 | 0.177 |
| | | 9.0 | | 77.53 | 453 | 841 | 80,967 | 0.182 |
| | | 10.0 | | 86.94 | 444 | 879 | 85,187 | 0.187 |
| | | ○ 10.3 | | 89.75 | 441 | 890 | 86,436 | 0.189 |
| | | 11.0 | | 96.29 | 435 | 916 | 89,323 | 0.192 |
| | | 12.0 | | 105.57 | 425 | 953 | 93,376 | 0.197 |
| 350 | 60 | 4.5 | 4～15 | 37.88 | 498 | 687 | 80,736 | 0.163 |
| | | 6.0 | | 53.88 | 482 | 751 | 89,956 | 0.171 |
| | | 9.0 | | 85.45 | 450 | 877 | 107,670 | 0.188 |
| | | 12.0 | | 116.46 | 419 | 1,001 | 124,460 | 0.205 |
| 355.6 | 63 | 4.5 | 4～15 | 38.50 | 529 | 722 | 86,692 | 0.171 |
| | | 5.0 | | 43.93 | 524 | 744 | 89,949 | 0.174 |
| | | 6.0 | | 54.76 | 513 | 787 | 96,376 | 0.180 |
| | | ○ 6.4 | | 59.07 | 509 | 804 | 98,916 | 0.182 |
| | | 7.0 | | 65.52 | 502 | 830 | 102,690 | 0.186 |
| | | ○ 7.9 | | 75.15 | 493 | 869 | 108,280 | 0.191 |
| | | 9.0 | | 86.86 | 481 | 915 | 115,000 | 0.197 |
| | | 10.0 | | 97.43 | 471 | 958 | 120,990 | 0.203 |
| | | ○ 11.1 | | 108.99 | 459 | 1,004 | 127,460 | 0.209 |
| | | 12.0 | | 118.39 | 450 | 1,042 | 132,650 | 0.214 |
| 400 | 65 | 4.5 | 4～15 | 43.38 | 628 | 845 | 130,840 | 0.201 |
| | | 5.0 | | 49.51 | 622 | 870 | 135,520 | 0.204 |
| | | 6.0 | | 61.73 | 610 | 919 | 144,760 | 0.211 |
| | | 7.0 | | 73.89 | 598 | 967 | 153,870 | 0.217 |
| | | 8.0 | | 85.99 | 586 | 1,016 | 162,830 | 0.224 |
| | | ○ 9.0 | | 98.02 | 574 | 1,064 | 171,660 | 0.230 |
| | | 10.0 | | 109.99 | 562 | 1,112 | 180,340 | 0.237 |
| | | 11.0 | | 121.89 | 550 | 1,159 | 188,900 | 0.243 |
| | | ○ 12.0 | | 133.74 | 538 | 1,207 | 197,310 | 0.249 |

○印以外のサイズと長さ１３m以上につきましては、弊社営業担当にご相談ください。

**【断面性能表】**（$\phi$450㎜～$\phi$700㎜）　　　(腐食代 1㎜)

| 外径 D (mm) | 厚さ t (mm) | 鋼管厚 ts (mm) | 長さ L (m) | 鋼管断面積 As×$10^2$ (mm$^2$) | コンクリート断面積 Ac×$10^2$ (mm$^2$) | 換算断面積 Ae×$10^2$ (mm$^2$) | 換算断面二次モーメント Ie ×$10^4$ (mm$^4$) | 参考質量 〈腐食0mm〉 W (t/m) |
|---|---|---|---|---|---|---|---|---|
| 450 | 70 | 4.5 | 4～15 | 48.88 | 773 | 1,017 | 200,690 | 0.243 |
| | | 5.0 | | 55.79 | 766 | 1,045 | 207,400 | 0.246 |
| | | 6.0 | | 69.59 | 752 | 1,100 | 220,690 | 0.254 |
| | | 7.0 | | 83.32 | 738 | 1,155 | 233,800 | 0.261 |
| | | 8.0 | | 96.98 | 725 | 1,210 | 246,730 | 0.269 |
| | | 9.0 | | 110.58 | 711 | 1,264 | 259,480 | 0.276 |
| | | 10.0 | | 124.12 | 697 | 1,318 | 272,060 | 0.283 |
| | | 11.0 | | 137.60 | 684 | 1,372 | 284,460 | 0.290 |
| | | 12.0 | | 151.02 | 671 | 1,426 | 296,690 | 0.298 |
| 500 | 80 | 4.5 | 4～15 | 54.37 | 986 | 1,258 | 302,800 | 0.302 |
| | | 5.0 | | 62.08 | 978 | 1,288 | 312,070 | 0.306 |
| | | 6.0 | | 77.44 | 962 | 1,349 | 330,440 | 0.314 |
| | | 7.0 | | 92.74 | 947 | 1,411 | 348,580 | 0.322 |
| | | 8.0 | | 107.98 | 932 | 1,472 | 366,500 | 0.330 |
| | | ○ 9.0 | | 123.15 | 917 | 1,533 | 384,200 | 0.338 |
| | | 10.0 | | 138.26 | 902 | 1,593 | 401,680 | 0.346 |
| | | 11.0 | | 153.31 | 887 | 1,654 | 418,950 | 0.355 |
| | | ○ 12.0 | | 168.30 | 872 | 1,714 | 435,990 | 0.363 |
| | | 13.0 | | 183.22 | 857 | 1,773 | 452,830 | 0.371 |
| | | ○ 14.0 | | 198.08 | 842 | 1,832 | 469,450 | 0.379 |
| | | 15.0 | | 212.87 | 827 | 1,891 | 485,860 | 0.386 |
| | | 16.0 | | 227.61 | 812 | 1,950 | 502,070 | 0.394 |
| 600 | 90 | 4.5 | 4～15 | 65.37 | 1,358 | 1,685 | 590,510 | 0.406 |
| | | 5.0 | | 74.64 | 1,349 | 1,722 | 606,680 | 0.411 |
| | | 6.0 | | 93.15 | 1,330 | 1,796 | 638,780 | 0.421 |
| | | 7.0 | | 111.59 | 1,312 | 1,870 | 670,550 | 0.431 |
| | | 8.0 | | 129.97 | 1,293 | 1,943 | 702,000 | 0.440 |
| | | ○ 9.0 | | 148.28 | 1,275 | 2,016 | 733,120 | 0.450 |
| | | 10.0 | | 166.54 | 1,257 | 2,090 | 763,930 | 0.460 |
| | | 11.0 | | 184.73 | 1,238 | 2,162 | 794,420 | 0.469 |
| | | ○ 12.0 | | 202.85 | 1,220 | 2,234 | 824,590 | 0.479 |
| | | 13.0 | | 220.92 | 1,202 | 2,307 | 854,460 | 0.489 |
| | | ○ 14.0 | | 238.92 | 1,184 | 2,379 | 884,010 | 0.499 |
| | | 15.0 | | 256.86 | 1,166 | 2,450 | 913,250 | 0.508 |
| | | ○ 16.0 | | 274.73 | 1,148 | 2,522 | 942,190 | 0.518 |
| | | 17.0 | | 292.55 | 1,131 | 2,594 | 970,820 | 0.527 |
| | | 18.0 | | 310.30 | 1,113 | 2,665 | 999,150 | 0.537 |
| | | 19.0 | | 327.98 | 1,095 | 2,735 | 1,027,200 | 0.546 |
| 700 | 100 | 4.5 | 4～15 | 76.36 | 1,787 | 2,169 | 1,042,500 | 0.524 |
| | | 5.0 | | 87.21 | 1,776 | 2,212 | 1,068,400 | 0.530 |
| | | 6.0 | | 108.86 | 1,754 | 2,298 | 1,119,800 | 0.541 |
| | | 7.0 | | 130.44 | 1,733 | 2,385 | 1,170,700 | 0.553 |
| | | 8.0 | | 151.96 | 1,711 | 2,471 | 1,221,200 | 0.564 |
| | | ○ 9.0 | | 173.42 | 1,690 | 2,557 | 1,271,300 | 0.576 |
| | | 10.0 | | 194.81 | 1,668 | 2,642 | 1,320,900 | 0.587 |
| | | 11.0 | | 216.14 | 1,647 | 2,728 | 1,370,000 | 0.599 |
| | | ○ 12.0 | | 237.41 | 1,626 | 2,813 | 1,418,800 | 0.610 |
| | | 13.0 | | 258.62 | 1,604 | 2,897 | 1,467,100 | 0.622 |
| | | ○ 14.0 | | 279.76 | 1,583 | 2,982 | 1,515,000 | 0.633 |
| | | 15.0 | | 300.84 | 1,562 | 3,066 | 1,562,400 | 0.644 |
| | | ○ 16.0 | | 321.86 | 1,541 | 3,150 | 1,609,500 | 0.655 |
| | | 17.0 | | 342.81 | 1,520 | 3,234 | 1,656,100 | 0.667 |
| | | 18.0 | | 363.70 | 1,499 | 3,318 | 1,702,300 | 0.678 |
| | | 19.0 | | 384.53 | 1,478 | 3,401 | 1,748,000 | 0.689 |
| | | 20.0 | | 405.30 | 1,458 | 3,485 | 1,793,400 | 0.700 |
| | | 21.0 | | 426.00 | 1,437 | 3,567 | 1,838,400 | 0.711 |
| | | 22.0 | | 446.64 | 1,416 | 3,649 | 1,882,900 | 0.722 |

○印以外のサイズと長さ１３m以上につきましては、弊社営業担当にご相談ください。

# ＳＣ･ＭＡＳパイル

**【断面性能表】**（$\phi$800mm～$\phi$1016mm）　　　　　　　　　　　　　　　　　（腐食代 1mm）

| 外径 D (mm) | 厚さ t (mm) | 鋼管厚 ts (mm) | 長さ L (m) | 鋼管断面積 As×$10^2$ ($mm^2$) | ｺﾝｸﾘｰﾄ断面積 Ac×$10^2$ ($mm^2$) | 換算断面積 Ae×$10^2$ ($mm^2$) | 換算断面二次モーメント Ie ×$10^4$ ($mm^4$) | 参考質量 〈腐食0mm〉 W (t/m) |
|---|---|---|---|---|---|---|---|---|
| 800 | 110 | 4.5 | 4～15 | 87.36 | 2,272 | 2,709 | 1,710,800 | 0.656 |
| | | 5.0 | | 99.78 | 2,260 | 2,759 | 1,749,600 | 0.663 |
| | | 6.0 | | 124.56 | 2,235 | 2,858 | 1,826,800 | 0.676 |
| | | 7.0 | | 149.29 | 2,210 | 2,956 | 1,903,300 | 0.690 |
| | | 8.0 | | 173.95 | 2,185 | 3,055 | 1,979,300 | 0.703 |
| | | ○ 9.0 | | 198.55 | 2,161 | 3,154 | 2,054,700 | 0.716 |
| | | 10.0 | | 223.08 | 2,136 | 3,251 | 2,129,600 | 0.729 |
| | | 11.0 | | 247.56 | 2,112 | 3,350 | 2,203,800 | 0.742 |
| | | ○ 12.0 | | 271.97 | 2,087 | 3,447 | 2,277,500 | 0.755 |
| | | 13.0 | | 296.32 | 2,063 | 3,545 | 2,350,600 | 0.768 |
| | | ○ 14.0 | | 320.60 | 2,039 | 3,642 | 2,423,200 | 0.781 |
| | | 15.0 | | 344.82 | 2,015 | 3,739 | 2,495,200 | 0.795 |
| | | ○ 16.0 | | 368.98 | 1,990 | 3,835 | 2,566,600 | 0.807 |
| | | 17.0 | | 393.08 | 1,966 | 3,931 | 2,637,500 | 0.820 |
| | | 18.0 | | 417.11 | 1,942 | 4,028 | 2,707,800 | 0.833 |
| | | 19.0 | | 441.08 | 1,918 | 4,123 | 2,777,600 | 0.846 |
| | | 20.0 | | 464.99 | 1,894 | 4,219 | 2,846,800 | 0.859 |
| | | 21.0 | | 488.83 | 1,871 | 4,315 | 2,915,500 | 0.872 |
| | | 22.0 | | 512.61 | 1,847 | 4,410 | 2,983,600 | 0.884 |
| | | 23.0 | | 536.33 | 1,823 | 4,505 | 3,051,200 | 0.897 |
| | | 24.0 | | 559.99 | 1,799 | 4,599 | 3,118,300 | 0.910 |
| | | 25.0 | | 583.58 | 1,776 | 4,694 | 3,184,800 | 0.922 |
| 812.8 | 116.4 | ○ 16.0 | 4～15 | 375.01 | 2,146 | 4,021 | 2,753,800 | 0.851 |
| | | 19.0 | | 448.32 | 2,073 | 4,315 | 2,975,600 | 0.891 |
| | | 22.0 | | 521.06 | 2,000 | 4,605 | 3,192,200 | 0.930 |
| | | 25.0 | | 593.23 | 1,928 | 4,894 | 3,403,800 | 0.968 |
| 900 | 120 | 4.5 | 4～15 | 98.36 | 2,814 | 3,306 | 2,654,200 | 0.803 |
| | | 5.0 | | 112.34 | 2,800 | 3,362 | 2,709,600 | 0.811 |
| | | 6.0 | | 140.27 | 2,772 | 3,473 | 2,820,000 | 0.825 |
| | | 7.0 | | 168.14 | 2,744 | 3,585 | 2,929,600 | 0.840 |
| | | 8.0 | | 195.94 | 2,716 | 3,696 | 3,038,500 | 0.855 |
| | | 9.0 | | 223.68 | 2,689 | 3,807 | 3,146,600 | 0.870 |
| | | 10.0 | | 251.36 | 2,661 | 3,918 | 3,254,000 | 0.885 |
| | | 11.0 | | 278.97 | 2,633 | 4,028 | 3,360,700 | 0.900 |
| | | ○ 12.0 | | 306.53 | 2,606 | 4,139 | 3,466,700 | 0.915 |
| | | 13.0 | | 334.01 | 2,578 | 4,248 | 3,571,900 | 0.929 |
| | | ○ 14.0 | | 361.44 | 2,551 | 4,358 | 3,676,400 | 0.944 |
| | | 15.0 | | 388.80 | 2,523 | 4,467 | 3,780,200 | 0.959 |
| | | ○ 16.0 | | 416.10 | 2,496 | 4,577 | 3,883,300 | 0.973 |
| | | 17.0 | | 443.34 | 2,469 | 4,686 | 3,985,700 | 0.988 |
| | | 18.0 | | 470.52 | 2,442 | 4,795 | 4,087,300 | 1.003 |
| | | ○ 19.0 | | 497.63 | 2,415 | 4,903 | 4,188,300 | 1.017 |
| | | 20.0 | | 524.68 | 2,388 | 5,011 | 4,288,600 | 1.032 |
| | | 21.0 | | 551.66 | 2,361 | 5,119 | 4,388,100 | 1.046 |
| | | 22.0 | | 578.59 | 2,334 | 5,227 | 4,487,000 | 1.060 |
| | | 23.0 | | 605.45 | 2,307 | 5,334 | 4,585,200 | 1.075 |
| | | 24.0 | | 632.25 | 2,280 | 5,441 | 4,682,700 | 1.089 |
| | | 25.0 | | 658.98 | 2,253 | 5,548 | 4,779,500 | 1.103 |
| 914.4 | 127.2 | ○ 19.0 | 4～15 | 505.77 | 2,611 | 5,140 | 4,494,200 | 1.073 |
| | | 22.0 | | 588.09 | 2,529 | 5,469 | 4,808,100 | 1.117 |
| | | 25.0 | | 669.84 | 2,447 | 5,796 | 5,115,700 | 1.161 |
| 1000 | 130 | 4.5 | 4～15 | 109.35 | 3,412 | 3,959 | 3,938,400 | 0.964 |
| | | 5.0 | | 124.91 | 3,397 | 4,022 | 4,014,700 | 0.972 |
| | | 6.0 | | 155.98 | 3,366 | 4,146 | 4,166,700 | 0.989 |
| | | 7.0 | | 186.99 | 3,335 | 4,270 | 4,317,700 | 1.005 |
| | | 8.0 | | 217.93 | 3,304 | 4,394 | 4,467,800 | 1.022 |
| | | 9.0 | | 248.81 | 3,273 | 4,517 | 4,617,000 | 1.038 |
| | | 10.0 | | 279.63 | 3,242 | 4,640 | 4,765,300 | 1.055 |
| | | 11.0 | | 310.39 | 3,211 | 4,763 | 4,912,700 | 1.071 |
| | | ○ 12.0 | | 341.08 | 3,181 | 4,886 | 5,059,200 | 1.088 |
| | | 13.0 | | 371.71 | 3,150 | 5,009 | 5,204,800 | 1.104 |
| | | ○ 14.0 | | 402.28 | 3,119 | 5,130 | 5,349,500 | 1.121 |
| | | 15.0 | | 432.79 | 3,089 | 5,253 | 5,493,300 | 1.137 |
| | | ○ 16.0 | | 463.23 | 3,059 | 5,375 | 5,636,200 | 1.154 |
| | | 17.0 | | 493.61 | 3,028 | 5,496 | 5,778,200 | 1.170 |
| | | 18.0 | | 523.92 | 2,998 | 5,618 | 5,919,400 | 1.186 |
| | | ○ 19.0 | | 554.18 | 2,968 | 5,739 | 6,059,700 | 1.202 |
| | | 20.0 | | 584.37 | 2,937 | 5,859 | 6,199,100 | 1.218 |
| | | 21.0 | | 614.50 | 2,907 | 5,980 | 6,337,600 | 1.234 |
| | | 22.0 | | 644.56 | 2,877 | 6,100 | 6,475,300 | 1.251 |
| | | 23.0 | | 674.56 | 2,847 | 6,220 | 6,612,100 | 1.267 |
| | | 24.0 | | 704.50 | 2,817 | 6,340 | 6,748,100 | 1.283 |
| | | 25.0 | | 734.38 | 2,787 | 6,459 | 6,883,200 | 1.299 |
| 1016 | 138 | ○ 19.0 | 4～15 | 563.22 | 3,211 | 6,027 | 6,512,000 | 1.271 |
| | | 22.0 | | 655.12 | 3,119 | 6,395 | 6,948,800 | 1.320 |
| | | 25.0 | | 746.44 | 3,028 | 6,760 | 7,377,600 | 1.369 |
| | | 28.0 | | 837.20 | 2,937 | 7,123 | 7,798,400 | 1.417 |

○印以外のサイズと長さ１３ｍ以上につきましては、弊社営業担当にご相談ください。
「ＳＣ・ＭＡＳパイル」は$\phi$1219.2mmまで製造可能です。（ＪＩＳⅡ類）