

MPC Systeemrails

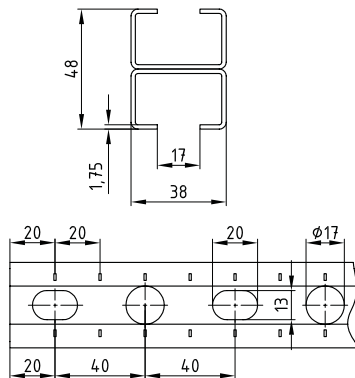
H-profielen, sendzimir verzinkt

Toepassing

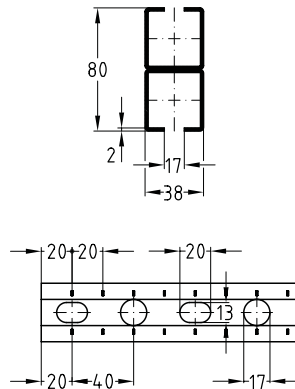
- Ideaal voor ruimtebesparende voering van leidingtraversen tussen plafondondersteuning
- Ideaal ook als draagconstructie voor luchtkanalen in droge binnenruimtes
- Veelzijdige montage mogelijkheden voor installaties en stellages in combinatie met de omvangrijke systeem-bouwdelen

Uw voordelen

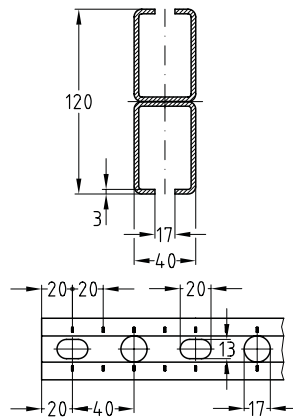
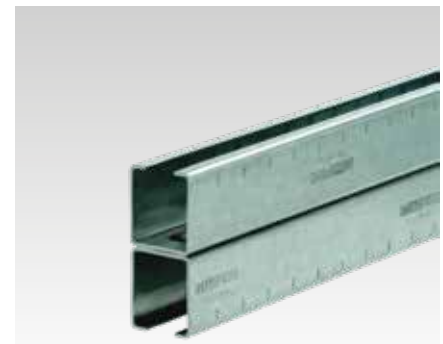
- Snelle en rationele bevestiging van leidingstramien en leidingtraversen
- Ideale combinatie van een hoge buigvastheid en montagevriendelijkheid
- Wederzijdse railsleuven maken een eenvoudig en snel uitrichten van alle hangende en staande leidingbevestigingen mogelijk
- Maatvoeringstrepen zijdelings en op de sleufkant vereenvoudigen de uitrichting van bevestigingselementen bij de installatie en vergemakkelijken het op maat maken van de profielen op de werkplek
- Passende geluiddempelen voor alle railprofielen
- Mooi optisch beeld door de toepassing van MPC-afsluitkappen



Profiel 38/48



Profiel 38/80



Profiel 40/120



De gegevens



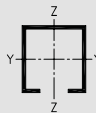
| Profiel | Lengte [mm] | Artikelnr. | Verp. eenheid | Eenheid |
|--------------|-------------|------------|---------------|---------|
| 38/48/1,75 H | 6.000 | 141179 | 1 | Stuk |
| 38/80/2,0 H | 2.000 | 129870 | | |
| | 4.000 | 129872 | | |
| | 6.640 | 129874 | | |
| 40/120/3,0 H | | 129875 | | |

! Voor toepassingen in bereiken met eisen aan de brandweerstandsduur zijn de beperkingen in de brandpreventiebepijns te betrachten.

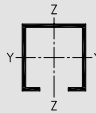
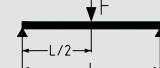
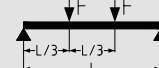
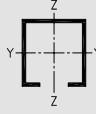
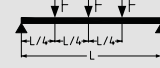
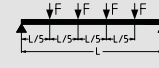
MPC Systeemrails

Technische gegevens

Technische gegevens van de profielen:

| De gegevens | | | | | | | | | | |
|---|-----------|--------------------|---|-------------------------------|-----------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Profiel | Materiaal | Oppervlakte | Toelaatbare staalspanning $\sigma_{toel.}$ [N/mm ²] | Verkrijgbare MPC Schuifmoeren | Profielgewicht [kg/m] | Profieldoorsnede [cm ²] | Traagheidsmoment | | Weerstandsmoment | |
| | | | | | | | I_y [cm ⁴] | I_z [cm ⁴] | W_y [cm ³] | W_z [cm ³] |
|  | DX51D | sendzimir verzinkt | 153 | M8, M10 | 0,6 | 0,69 | 0,2911 | 0,9554 | 0,31 | 0,707 |
| | | | | | 1,15 | 1,36 | 1,3999 | 2,0551 | 0,911 | 1,467 |
| | | | | | 1,21 | 1,4 | 1,0871 | 3,6213 | 0,905 | 1,905 |
| | | | | | 1,82 | 2,21 | 4,3286 | 6,1 | 2,164 | 3,21 |
| | | | | | 2,8 | 3,35 | 10,4472 | 9,7614 | 4,018 | 5,005 |
| | | | | | 3,5 | 4,44 | 17,5426 | 13,3946 | 5,847 | 6,697 |
| | | | | 4,68 | 5,64 | 37,939 | 17,5106 | 9,484 | 8,755 | |
| | | | | 38/48/1,75 H | 2,43 | 2,79 | 6,1952 | 7,2427 | 2,581 | 3,811 |
| | | | | 38/80/2,0 H | 3,58 | 4,42 | 26,3479 | 12,2001 | 6,586 | 6,421 |
| | | | | 40/120/3,0 H | 7 | 8,88 | 115,0004 | 26,789 | 19,166 | 13,394 |

Belastingswaarden van de profielen voor buiging om de Y-as in [N]:

| Profiel | L [m] | | | | | | L [m] | | | | | | |
|---|---|--------|-------|-------|-------|-------|---|-------|-------|-------|-------|-----|------------|
| | 0,5 | 1,0 | 1,5 | 2,0 | 4,0 | 6,0 | 0,5 | 1,0 | 1,5 | 2,0 | 4,0 | 6,0 | |
|  |  | | | | | |  | | | | | | |
| | | | | | | | | | | | | | 27/18/1,25 |
| | 28/30/1,75 | 1.099 | 549 | 303 | 162 | - | - | 814 | 410 | 178 | 95 | - | - |
| | 38/24/1,75 | 1.094 | 541 | 233 | 122 | - | - | 812 | 317 | 136 | 72 | - | - |
| | 38/40/2,0 | 2.609 | 1.308 | 867 | 523 | 92 | - | 1.927 | 979 | 559 | 307 | 54 | - |
| | 39/52/2,5 | 4.830 | 2.430 | 1.612 | 1.198 | 260 | 43 | 3.555 | 1.816 | 1.206 | 752 | 153 | 25 |
| | 40/60/3,0 | 7.019 | 3.537 | 2.349 | 1.748 | 467 | 117 | 5.157 | 2.643 | 1.758 | 1.272 | 274 | 69 |
| | 40/80/3,0 | 11.311 | 5.733 | 3.815 | 2.844 | 1.080 | 359 | 8.246 | 4.274 | 2.852 | 2.128 | 634 | 211 |
| | 38/48/1,75 H | 3.100 | 1.559 | 1.032 | 753 | 139 | - | 2.280 | 1.165 | 772 | 442 | 82 | - |
| | 38/80/2,0 H | 7.834 | 3.977 | 2.646 | 1.971 | 741 | 235 | 5.696 | 2.962 | 1.977 | 1.475 | 435 | 138 |
| 40/120/3,0 H | 22.447 | 11.542 | 7.711 | 5.765 | 2.785 | 1.353 | 16.040 | 8.554 | 5.749 | 4.307 | 2.026 | 794 | |
|  |  | | | | | |  | | | | | | |
| | | | | | | | | | | | | | 27/18/1,25 |
| | 28/30/1,75 | 544 | 274 | 128 | 68 | - | - | 451 | 228 | 100 | 54 | - | |
| | 38/24/1,75 | 542 | 228 | 98 | 52 | - | - | 450 | 179 | 77 | 41 | - | |
| | 38/40/2,0 | 1.287 | 652 | 401 | 220 | 39 | - | 1.067 | 542 | 315 | 173 | 30 | |
| | 39/52/2,5 | 2.374 | 1.210 | 804 | 540 | 110 | 18 | 1.965 | 1.006 | 670 | 424 | 86 | 14 |
| | 40/60/3,0 | 3.444 | 1.760 | 1.172 | 873 | 197 | 49 | 2.848 | 1.464 | 976 | 717 | 154 | 39 |
| | 40/80/3,0 | 5.508 | 2.847 | 1.901 | 1.420 | 455 | 151 | 4.541 | 2.365 | 1.582 | 1.182 | 357 | 119 |
| | 38/48/1,75 H | 1.523 | 776 | 515 | 317 | 59 | - | 1.260 | 645 | 429 | 249 | 46 | - |
| | 38/80/2,0 H | 3.804 | 1.973 | 1.318 | 984 | 312 | 99 | 3.133 | 1.639 | 1.097 | 819 | 245 | 78 |
| 40/120/3,0 H | 10.711 | 5.697 | 3.833 | 2.873 | 1.391 | 570 | 8.763 | 4.723 | 3.186 | 2.391 | 1.141 | 447 | |

De technische gegevens gelden voor statisch rustende belastingen. Berekening op basis van de Eurocode (EC3).

Het veiligheidscoëfficiënt $\gamma = 1,54$ houdt rekening met de veiligheids- en combinatiecoëfficiënten en met het veiligheidscoëfficiënt van het materiaal.

Bij de aangegeven waarden wordt de toelaatbare staalspanning volgens tabel en de maximaal toelaatbare doorbuiging $L/200$ met inachtneming van het eigen gewicht niet overschreden.

MPC Systeemrails

Technische gegevens

Toegelaten knikbelastingen voor profielen in [N]:

| Kniklengte Lk [mm] | 27/18/1,25 | 28/30/1,75 | 38/24/1,75 | 38/40/2,0 | 39/52/2,5 | 40/60/3,0 | 40/80/3,0 | 38/48/1,75 H | 38/80/2,0 H | 40/120/3,0 H |
|--------------------|------------|------------|------------|-----------|-----------|-----------|-----------|--------------|-------------|--------------|
| 200 | 10.105 | 20.698 | 20.992 | 33.744 | 51.172 | 67.749 | 86.061 | 42.610 | 67.488 | 135.498 |
| 300 | 9.403 | 19.911 | 20.046 | 33.405 | 51.172 | 67.749 | 86.061 | 42.392 | 67.488 | 135.498 |
| 400 | 8.553 | 19.069 | 19.000 | 32.478 | 50.269 | 66.660 | 84.785 | 41.299 | 66.644 | 134.144 |
| 500 | 7.531 | 18.133 | 17.798 | 31.508 | 49.109 | 65.155 | 82.904 | 40.166 | 65.642 | 132.242 |
| 600 | 6.416 | 17.068 | 16.404 | 30.469 | 47.902 | 63.593 | 80.954 | 38.964 | 64.571 | 130.223 |
| 700 | 5.355 | 15.861 | 14.839 | 29.338 | 46.627 | 61.946 | 78.904 | 37.669 | 63.403 | 128.040 |
| 800 | 4.444 | 14.529 | 13.190 | 28.095 | 45.264 | 60.190 | 76.721 | 36.258 | 62.104 | 125.636 |
| 900 | 3.705 | 13.132 | 11.582 | 26.730 | 43.794 | 58.302 | 74.378 | 34.714 | 60.639 | 122.951 |
| 1.000 | 3.116 | 11.749 | 10.109 | 25.245 | 42.206 | 56.263 | 71.852 | 33.033 | 58.966 | 119.914 |
| 1.100 | 2.648 | 10.451 | 8.818 | 23.663 | 40.491 | 54.064 | 69.128 | 31.226 | 57.046 | 116.455 |
| 1.200 | 2.273 | 9.278 | 7.713 | 22.023 | 38.654 | 51.706 | 66.208 | 29.323 | 54.851 | 112.513 |
| 1.300 | 1.970 | 8.243 | 6.778 | 20.374 | 36.712 | 49.209 | 63.109 | 27.368 | 52.374 | 108.052 |
| 1.400 | 1.722 | 7.343 | 5.987 | 18.765 | 34.696 | 46.605 | 59.869 | 25.417 | 49.641 | 103.084 |
| 1.500 | 1.517 | 6.565 | 5.318 | 17.237 | 32.643 | 43.942 | 56.545 | 23.518 | 46.719 | 97.686 |
| 1.600 | 1.346 | 5.893 | 4.750 | 15.813 | 30.597 | 41.274 | 53.199 | 21.712 | 43.703 | 91.997 |
| 1.700 | 1.203 | 5.312 | 4.265 | 14.506 | 28.599 | 38.652 | 49.897 | 20.023 | 40.692 | 86.189 |
| 1.800 | 1.080 | 4.809 | 3.848 | 13.317 | 26.680 | 36.121 | 46.695 | 18.463 | 37.772 | 80.436 |
| 1.900 | 976 | 4.370 | 3.488 | 12.244 | 24.864 | 33.712 | 43.636 | 17.037 | 35.004 | 74.879 |
| 2.000 | 886 | 3.987 | 3.176 | 11.278 | 23.163 | 31.448 | 40.748 | 15.740 | 32.423 | 69.614 |
| 2.100 | 807 | 3.651 | 2.902 | 10.409 | 21.584 | 29.336 | 38.047 | 14.563 | 30.042 | 64.696 |
| 2.200 | 739 | 3.355 | 2.663 | 9.628 | 20.126 | 27.380 | 35.539 | 13.499 | 27.862 | 60.148 |
| 2.300 | 679 | 3.092 | 2.451 | 8.925 | 18.784 | 25.576 | 33.219 | 12.536 | 25.874 | 55.968 |
| 2.400 | 626 | 2.859 | 2.263 | 8.292 | 17.553 | 23.916 | 31.082 | 11.664 | 24.065 | 52.141 |
| 2.500 | 579 | 2.651 | 2.096 | 7.720 | 16.425 | 22.392 | 29.115 | 10.874 | 22.421 | 48.645 |
| 2.600 | 537 | 2.464 | 1.947 | 7.203 | 15.391 | 20.993 | 27.308 | 10.157 | 20.927 | 45.454 |
| 2.700 | 499 | 2.297 | 1.813 | 6.735 | 14.443 | 19.709 | 25.647 | 9.506 | 19.567 | 42.540 |
| 2.800 | 465 | 2.145 | 1.692 | 6.309 | 13.574 | 18.530 | 24.121 | 8.912 | 18.328 | 39.879 |
| 2.900 | 435 | 2.008 | 1.583 | 5.921 | 12.776 | 17.447 | 22.718 | 8.371 | 17.198 | 37.446 |
| 3.000 | 407 | 1.884 | 1.484 | 5.567 | 12.043 | 16.451 | 21.425 | 7.875 | 16.165 | 35.217 |
| 3.100 | 382 | 1.771 | 1.394 | 5.243 | 11.368 | 15.533 | 20.234 | 7.422 | 15.219 | 33.174 |
| 3.200 | 359 | 1.667 | 1.312 | 4.946 | 10.746 | 14.686 | 19.135 | 7.005 | 14.351 | 31.297 |
| 3.300 | 339 | 1.573 | 1.237 | 4.674 | 10.172 | 13.904 | 18.120 | 6.622 | 13.553 | 29.569 |
| 3.400 | 320 | 1.486 | 1.168 | 4.422 | 9.641 | 13.181 | 17.180 | 6.269 | 12.819 | 27.977 |
| 3.500 | 302 | 1.406 | 1.105 | 4.191 | 9.149 | 12.511 | 16.309 | 5.943 | 12.142 | 26.507 |
| 3.600 | 286 | 1.332 | 1.047 | 3.977 | 8.693 | 11.890 | 15.501 | 5.641 | 11.516 | 25.148 |
| 3.700 | 271 | 1.264 | 993 | 3.778 | 8.270 | 11.312 | 14.750 | 5.362 | 10.936 | 23.888 |
| 3.800 | 257 | 1.202 | 943 | 3.594 | 7.876 | 10.775 | 14.051 | 5.102 | 10.398 | 22.719 |
| 3.900 | 245 | 1.143 | 897 | 3.423 | 7.509 | 10.274 | 13.399 | 4.861 | 9.899 | 21.632 |
| 4.000 | 233 | 1.089 | 854 | 3.264 | 7.167 | 9.807 | 12.791 | 4.636 | 9.434 | 20.621 |
| 4.100 | 222 | 1.038 | 815 | 3.116 | 6.847 | 9.370 | 12.222 | 4.426 | 9.001 | 19.678 |
| 4.200 | 212 | 991 | 777 | 2.977 | 6.548 | 8.962 | 11.690 | 4.230 | 8.597 | 18.797 |
| 4.300 | 202 | 948 | 743 | 2.847 | 6.268 | 8.579 | 11.192 | 4.047 | 8.219 | 17.974 |
| 4.400 | 193 | 906 | 710 | 2.726 | 6.005 | 8.220 | 10.724 | 3.875 | 7.865 | 17.203 |
| 4.500 | 185 | 868 | 680 | 2.612 | 5.758 | 7.883 | 10.285 | 3.714 | 7.534 | 16.480 |
| 4.600 | 177 | 832 | 652 | 2.505 | 5.526 | 7.565 | 9.872 | 3.563 | 7.223 | 15.801 |
| 4.700 | 170 | 798 | 625 | 2.405 | 5.308 | 7.267 | 9.483 | 3.421 | 6.930 | 15.163 |
| 4.800 | 163 | 766 | 600 | 2.310 | 5.102 | 6.986 | 9.116 | 3.287 | 6.655 | 14.563 |
| 4.900 | 157 | 736 | 576 | 2.221 | 4.908 | 6.720 | 8.770 | 3.160 | 6.396 | 13.998 |
| 5.000 | 151 | 708 | 554 | 2.137 | 4.724 | 6.469 | 8.443 | 3.041 | 6.152 | 13.464 |
| 5.100 | 145 | 681 | 533 | 2.058 | 4.551 | 6.232 | 8.134 | 2.928 | 5.921 | 12.961 |
| 5.200 | 139 | 656 | 513 | 1.983 | 4.387 | 6.008 | 7.841 | 2.822 | 5.703 | 12.485 |
| 5.300 | 134 | 632 | 495 | 1.912 | 4.231 | 5.795 | 7.564 | 2.721 | 5.497 | 12.034 |
| 5.400 | 129 | 610 | 477 | 1.844 | 4.084 | 5.594 | 7.302 | 2.626 | 5.302 | 11.608 |
| 5.500 | 125 | 588 | 460 | 1.780 | 3.944 | 5.403 | 7.052 | 2.535 | 5.117 | 11.203 |
| 5.600 | 121 | 568 | 444 | 1.720 | 3.812 | 5.221 | 6.815 | 2.449 | 4.941 | 10.819 |
| 5.700 | 116 | 549 | 429 | 1.662 | 3.685 | 5.048 | 6.590 | 2.367 | 4.775 | 10.455 |
| 5.800 | 112 | 531 | 415 | 1.608 | 3.565 | 4.884 | 6.376 | 2.290 | 4.616 | 10.109 |
| 5.900 | 109 | 513 | 401 | 1.556 | 3.451 | 4.727 | 6.172 | 2.216 | 4.465 | 9.779 |
| 6.000 | 105 | 497 | 388 | 1.506 | 3.342 | 4.578 | 5.977 | 2.145 | 4.322 | 9.466 |

MPC Systemrails

Technische gegevens



Knikbelastingen volgens DIN EN 1993-1-1 paragrafen 6.2 en 6.3.

De tabelwaarden gelden voor vol dragende dwarsdoorsneden en gecentreerde belasting.

De mogelijke geringere slankheidsgraad voor torsieknik en buigtorsieknik moet apart onderzocht worden!

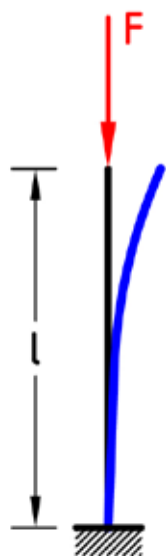
Knikbewegingen om de z- en y-as werden onderzocht.

De ongunstigste knikbelasting is in de tabel opgenomen.

Het veiligheidscoëfficiënt $\gamma = 1,54$ houdt rekening met de veiligheids- en combinatiecoëfficiënten en met het veiligheidscoëfficiënt van het materiaal.

Afhankelijk van de opslagcondities en de staaf lengte l in overeenstemming met de afbeelding de maatgevende kniklengte L_k bepalen.

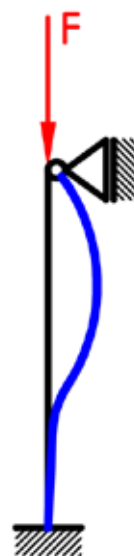
Met L_k in de tabel de knikbelasting F aflezen.



$$L_k = 2,0 \times l$$



$$L_k = 1,0 \times l$$



$$L_k = 0,7 \times l$$



$$L_k = 0,5 \times l$$