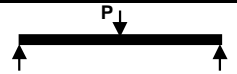


RESIDENTIAL FLOOR HEADERS WITH CONCENTRATED CENTER LOAD (L/360)
California Building Code 2007 Edition (CBC), NDS 2005

Lumber: Douglas Fir-Larch, Surfaced-Dry condition (19% maximum moisture content).

Design Criteria Strength: Based on allowable bending stresses and shear stresses for Dead + Live loads.

Deflection: Based on L/360 for Dead plus Live load.



| SIZES W x D | GRADE | LENGTH (FEET) THE MEMBER SPANS | | | | | | | | | | | | | | | |
|----------------|-------|--------------------------------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|-------|--|
| | | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | |
| 4 x 4 | SS | 1340 | 611 | 344 | 220 | 153 | 112 | 86 | NOTES 1. Horizontal shear controls design in area left of solid line. (<i>Bold Italics</i>) 2. Deflection controls design in area right of double line. (<i>Bold</i>) 3. Bending stress controls design in area between solid and double lines. | | | | | | | | |
| 4 x 4 | #1+ | 1072 | 579 | 326 | 208 | 145 | 106 | 81 | | | | | | | | | |
| 4 x 4 | #1 | 893 | 547 | 308 | 197 | 137 | 100 | 77 | | | | | | | | | |
| 4 x 4 | #2 | 804 | 515 | 289 | 185 | 129 | 95 | 72 | | | | | | | | | |
| 4 x 6 | SS | 2867 | 1912 | 1334 | 854 | 593 | 436 | 333 | LENGTH (FEET) THE MEMBER SPANS 18 20 22 24 26 28 30 32 | | | | | | | | |
| 4 x 6 | #1+ | 2294 | 1529 | 1147 | 809 | 562 | 413 | 316 | | | | | | | | | |
| 4 x 6 | #1 | 1912 | 1274 | 956 | 764 | 530 | 390 | 298 | | | | | | | | | |
| 4 x 6 | #2 | 1720 | 1147 | 860 | 688 | 499 | 367 | 281 | | | | | | | | | |
| 4 x 8 | SS | 4982 | 3322 | 2491 | 1955 | 1358 | 998 | 764 | 604 | 489 | 404 | 339 | 289 | 249 | 217 | 191 | |
| 4 x 8 | #1+ | 3986 | 2657 | 1993 | 1594 | 1286 | 945 | 724 | 572 | 463 | 383 | 322 | 274 | 236 | 206 | 181 | |
| 4 x 8 | #1 | 3322 | 2214 | 1661 | 1329 | 1107 | 893 | 683 | 540 | 437 | 361 | 304 | 259 | 223 | 194 | 171 | |
| 4 x 8 | #2 | 2989 | 1993 | 1495 | 1196 | 996 | 840 | 643 | 508 | 412 | 340 | 286 | 244 | 210 | 183 | 161 | |
| 4 x 10 | SS | 7487 | 4991 | 3743 | 2995 | 2496 | 2072 | 1586 | 1253 | 1015 | 839 | 705 | 601 | 518 | 451 | 397 | |
| 4 x 10 | #1+ | 5989 | 3993 | 2995 | 2396 | 1996 | 1711 | 1497 | 1187 | 962 | 795 | 668 | 569 | 491 | 427 | 376 | |
| 4 x 10 | #1 | 4991 | 3327 | 2496 | 1996 | 1664 | 1426 | 1248 | 1109 | 908 | 751 | 631 | 538 | 463 | 404 | 355 | |
| 4 x 10 | #2 | 4492 | 2995 | 2246 | 1797 | 1497 | 1283 | 1123 | 998 | 855 | 707 | 594 | 506 | 436 | 380 | 334 | |
| 4 x 12 | SS | 9450 | 6768 | 5076 | 4061 | 3384 | 2900 | 2538 | 2255 | 1826 | 1509 | 1268 | 1081 | 932 | 812 | 713 | |
| 4 x 12 | #1+ | 8121 | 5414 | 4061 | 3248 | 2707 | 2320 | 2030 | 1805 | 1624 | 1430 | 1202 | 1024 | 883 | 769 | 676 | |
| 4 x 12 | #1 | 6768 | 4512 | 3384 | 2707 | 2256 | 1934 | 1692 | 1504 | 1354 | 1230 | 1128 | 967 | 834 | 726 | 638 | |
| 4 x 12 | #2 | 6091 | 4061 | 3045 | 2436 | 2030 | 1740 | 1523 | 1354 | 1218 | 1107 | 1015 | 910 | 785 | 684 | 601 | |
| 4 x 14 | SS | 11130 | 8534 | 6401 | 5121 | 4267 | 3658 | 3200 | 2845 | 2560 | 2328 | 2072 | 1766 | 1522 | 1326 | 1166 | |
| 4 x 14 | #1+ | 10241 | 6827 | 5121 | 4096 | 3414 | 2926 | 2560 | 2276 | 2048 | 1862 | 1707 | 1576 | 1442 | 1256 | 1104 | |
| 4 x 14 | #1 | 8534 | 5690 | 4267 | 3414 | 2845 | 2438 | 2134 | 1897 | 1707 | 1552 | 1422 | 1313 | 1219 | 1138 | 1043 | |
| 4 x 14 | #2 | 7681 | 5121 | 3840 | 3072 | 2560 | 2195 | 1920 | 1707 | 1536 | 1397 | 1280 | 1182 | 1097 | 1024 | 960 | |
| 4 x 16 | SS | 12810 | 11305 | 8479 | 6783 | 5653 | 4845 | 4239 | 3768 | 3392 | 3083 | 2826 | 2609 | 2321 | 2022 | 1777 | |
| 4 x 16 | #1+ | 12810 | 9044 | 6783 | 5426 | 4522 | 3876 | 3392 | 3015 | 2713 | 2467 | 2261 | 2087 | 1938 | 1809 | 1684 | |
| 4 x 16 | #1 | 11305 | 7537 | 5653 | 4522 | 3768 | 3230 | 2826 | 2512 | 2261 | 2055 | 1884 | 1739 | 1615 | 1507 | 1413 | |
| 4 x 16 | #2 | 10175 | 6783 | 5087 | 4070 | 3392 | 2907 | 2544 | 2261 | 2035 | 1850 | 1696 | 1565 | 1454 | 1357 | 1272 | |
| 6 x 6 | SS | 3466 | 2311 | 1733 | 1130 | 785 | 576 | 441 | 349 | 282 | 233 | 196 | 167 | 144 | 126 | 110 | |
| 6 x 6 | #1 | 2773 | 1849 | 1386 | 1109 | 785 | 576 | 441 | 349 | 282 | 233 | 196 | 167 | 144 | 126 | 110 | |
| 6 x 8 | SS | 6445 | 4297 | 3223 | 2578 | 1989 | 1462 | 1119 | 884 | 716 | 592 | 497 | 424 | 365 | 318 | 280 | |
| 6 x 8 | #1 | 5156 | 3438 | 2578 | 2063 | 1719 | 1462 | 1119 | 884 | 716 | 592 | 497 | 424 | 365 | 318 | 280 | |
| 6 x 10 | SS | 11031 | 7354 | 5515 | 4412 | 3677 | 2970 | 2274 | 1797 | 1455 | 1203 | 1011 | 861 | 743 | 647 | 569 | |
| 6 x 10 | #1 | 9307 | 6205 | 4654 | 3723 | 3102 | 2659 | 2274 | 1797 | 1455 | 1203 | 1011 | 861 | 743 | 647 | 569 | |
| 6 x 12 | SS | 14337 | 10776 | 8082 | 6466 | 5388 | 4618 | 4034 | 3187 | 2582 | 2134 | 1793 | 1528 | 1317 | 1147 | 1008 | |
| 6 x 12 | #1 | 13638 | 9092 | 6819 | 5455 | 4546 | 3897 | 3410 | 3031 | 2582 | 2134 | 1793 | 1528 | 1317 | 1147 | 1008 | |
| 6 x 14 | SS | 16830 | 14655 | 10991 | 8793 | 7328 | 6281 | 5496 | 4885 | 4177 | 3452 | 2900 | 2471 | 2131 | 1856 | 1631 | |
| 6 x 14 | #1 | 16830 | 12363 | 9272 | 7418 | 6181 | 5298 | 4636 | 4121 | 3709 | 3372 | 2900 | 2471 | 2131 | 1856 | 1631 | |
| 6 x 16 | SS | 19323 | 19025 | 14269 | 11415 | 9513 | 8154 | 7135 | 6342 | 5708 | 5189 | 4390 | 3740 | 3225 | 2810 | 2469 | |
| 6 x 16 | #1 | 19323 | 16052 | 12039 | 9631 | 8026 | 6880 | 6020 | 5351 | 4816 | 4378 | 4013 | 3704 | 3225 | 2810 | 2469 | |
| 6 x 18 | SS | 21817 | 21817 | 17943 | 14355 | 11962 | 10253 | 8972 | 7975 | 7177 | 6525 | 5981 | 5383 | 4642 | 4043 | 3554 | |
| 6 x 18 | #1 | 21817 | 20181 | 15136 | 12109 | 10091 | 8649 | 7568 | 6727 | 6054 | 5504 | 5045 | 4657 | 4325 | 4036 | 3554 | |
| 6 x 20 | SS | 24310 | 24310 | 22003 | 17602 | 14669 | 12573 | 11002 | 9779 | 8801 | 8001 | 7334 | 6770 | 6287 | 5594 | 4917 | |
| 6 x 20 | #1 | 24310 | 24310 | 18575 | 14860 | 12384 | 10615 | 9288 | 8256 | 7430 | 6755 | 6192 | 5716 | 5307 | 4953 | 4644 | |
| 8 x 8 | SS | 8789 | 5859 | 4395 | 3516 | 2713 | 1993 | 1526 | 1206 | 977 | 807 | 678 | 578 | 498 | 434 | 381 | |
| 8 x 8 | #1 | 7031 | 4688 | 3516 | 2813 | 2344 | 1993 | 1526 | 1206 | 977 | 807 | 678 | 578 | 498 | 434 | 381 | |
| 8 x 10 | SS | 14102 | 9401 | 7051 | 5641 | 4701 | 4029 | 3101 | 2450 | 1985 | 1640 | 1378 | 1174 | 1013 | 882 | 775 | |
| 8 x 10 | #1 | 11281 | 7521 | 5641 | 4513 | 3760 | 3223 | 2820 | 2450 | 1985 | 1640 | 1378 | 1174 | 1013 | 882 | 775 | |
| 8 x 12 | SS | 19550 | 14694 | 11021 | 8817 | 7347 | 6298 | 5501 | 4346 | 3521 | 2910 | 2445 | 2083 | 1796 | 1565 | 1375 | |
| 8 x 12 | #1 | 18598 | 12398 | 9299 | 7439 | 6199 | 5314 | 4649 | 4133 | 3521 | 2910 | 2445 | 2083 | 1796 | 1565 | 1375 | |
| 8 x 14 | SS | 22950 | 19984 | 14988 | 11991 | 9992 | 8565 | 7494 | 6661 | 5695 | 4707 | 3955 | 3370 | 2906 | 2531 | 2225 | |
| 8 x 14 | #1 | 22950 | 16858 | 12644 | 10115 | 8429 | 7225 | 6322 | 5619 | 5057 | 4598 | 3955 | 3370 | 2906 | 2531 | 2225 | |
| 8 x 16 | SS | 26350 | 25944 | 19458 | 15566 | 12972 | 11119 | 9729 | 8648 | 7783 | 7076 | 5986 | 5101 | 4398 | 3831 | 3367 | |
| 8 x 16 | #1 | 26350 | 21889 | 16417 | 13134 | 10945 | 9381 | 8209 | 7296 | 6567 | 5970 | 5472 | 5051 | 4398 | 3831 | 3367 | |
| 8 x 18 | SS | 29750 | 29750 | 24468 | 19574 | 16312 | 13982 | 12234 | 10875 | 9787 | 8897 | 8156 | 7341 | 6330 | 5514 | 4846 | |
| 8 x 18 | #1 | 29750 | 27520 | 20640 | 16512 | 13760 | 11794 | 10320 | 9173 | 8256 | 7505 | 6880 | 6351 | 5897 | 5504 | 4846 | |
| 8 x 20 | SS | 33150 | 33150 | 30004 | 24003 | 20003 | 17145 | 15002 | 13335 | 12002 | 10911 | 10001 | 9232 | 8573 | 7628 | 6705 | |
| 8 x 20 | #1 | 33150 | 33150 | 25330 | 20264 | 16887 | 14474 | 12665 | 11258 | 10132 | 9211 | 8443 | 7794 | 7237 | 6755 | 6333 | |
| 8 x 22 | SS | 36550 | 36550 | 36089 | 28871 | 24059 | 20622 | 18045 | 16040 | 14436 | 13123 | 12030 | 11104 | 10311 | 9624 | 8987 | |
| 8 x 22 | #1 | 36550 | 36550 | 30456 | 24364 | 20304 | 17403 | 15228 | 13536 | 12182 | 11075 | 10152 | 9371 | 8702 | 8121 | 7614 | |
| 8 x 24 | SS | 39950 | 39950 | 39950 | 34147 | 28456 | 24391 | 21342 | 18971 | 17074 | 15522 | 14228 | 13134 | 12196 | 11382 | 10671 | |
| 8 x 24 | #1 | 39950 | 39950 | 36011 | 28809 | 24008 | 20578 | 18006 | 16005 | 14405 | 13095 | 12004 | 11080 | 10289 | 9603 | 9003 | |

DIVISION OF BUILDING AND SAFETY
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Jim MacDonald