

STANDARD LOAD TABLE

OPEN WEB STEEL JOISTS, H- SERIES

Based on Allowable Stress of 30,000 PSI

Adopted by the Steel Joist Institute and American Institute of Steel Construction Inc., November 1, 1972

The black figures in the following table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot, of H-Series Steel Joists. The weight of DEAD loads, including the joists, must be deducted to determine the LIVE load-carrying capacities of the joists. The load table may be used for parallel chord joists installed to a maximum slope of 1/2 inch per foot.

The figures shown in blue in this load table are the LIVE loads per linear foot of joist which will produce an approximate deflection of 1/360 of the span. LIVE loads which will produce a deflection of 1/240 of the span may be

obtained by multiplying the figures in blue by 1.5. In no case shall the total load capacity of the joists be exceeded.**

Tests on steel joists designed in accordance with the Standard Specifications have demonstrated that the Standard Load Tables are applicable for concentrated top chord loadings (such as are developed in bulb-tee roof construction) when the sum of the equal concentrated top chord loadings does not exceed the allowable uniform loading for the joist type and span and the loads are placed at spacings not exceeding 33" along the top chord.

LOADS ABOVE THE COLORED LINES ARE GOVERNED BY SHEAR.

LOADS BELOW THE BLACK DOTTED LINES ARE TO BE USED FOR ROOF CONSTRUCTION ONLY.

| Joist Designation | 8H3 | 10H3 | 10H4 | 12H3 | 12H4 | 12H5 | 12H6 | 14H3 | 14H4 | 14H5 | 14H6 | 14H7 | 16H4 | 16H5 | 16H6 | 16H7 | 16H8 |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Nominal *Depth (in.) | 8 | 10 | 10 | 12 | 12 | 12 | 12 | 14 | 14 | 14 | 14 | 14 | 16 | 16 | 16 | 16 | 16 |
| Resist. Moment (in.-lbs.) | 91,000 | 116,000 | 148,000 | 140,000 | 180,000 | 222,000 | 260,000 | 165,000 | 212,000 | 259,000 | 307,000 | 369,000 | 221,000 | 289,000 | 344,000 | 413,000 | 478,000 |
| Max. End React. (lbs.) | 2400 | 2500 | 2800 | 2800 | 3200 | 3600 | 3900 | 3200 | 3500 | 3800 | 4200 | 4600 | 3800 | 4300 | 4600 | 4900 | 5200 |
| †Approx. Wt. (lbs./ft.) | 5.0 | 5.0 | 6.1 | 5.2 | 6.2 | 7.1 | 8.2 | 5.5 | 6.5 | 7.4 | 8.6 | 10.0 | 6.6 | 7.8 | 8.6 | 10.3 | 11.4 |
| Span in Feet | 8 | | | | | | | | | | | | | | | | |
| 9 | 600 | | | | | | | | | | | | | | | | |
| 10 | 533 | | | | | | | | | | | | | | | | |
| 11 | 480 460 | 500 | 560 | | | | | | | | | | | | | | |
| 12 | 436 345 | 455 | 509 | | | | | | | | | | | | | | |
| 13 | 400 266 | 417 | 467 | 467 | 533 | 600 | 650 | | | | | | | | | | |
| 14 | 359 209 | 385 337 | 431 417 | 431 | 492 | 554 | 600 | | | | | | | | | | |
| 15 | 310 167 | 357 270 | 400 334 | 400 393 | 457 | 514 | 557 | 457 | 500 | 543 | 600 | 657 | | | | | |
| 16 | 270 136 | 333 219 | 373 271 | 373 320 | 427 418 | 480 | 520 | 427 | 467 | 507 | 560 | 613 | | | | | |
| 17 | 232 112 | 302 181 | 350 223 | 350 264 | 400 345 | 450 404 | 488 480 | 400 366 | 438 | 475 | 525 | 575 | 475 | 538 | 575 | 613 | 650 |
| 18 | | 268 151 | 329 186 | 323 220 | 376 287 | 424 337 | 459 400 | 376 305 | 412 398 | 447 | 494 | 541 | 447 | 506 | 541 | 576 | 612 |
| 19 | | 239 127 | 305 157 | 288 185 | 356 242 | 400 284 | 433 337 | 340 257 | 389 336 | 422 393 | 467 | 511 | 422 413 | 478 | 511 | 544 | 578 |
| 20 | | 214 108 | 273 133 | 259 157 | 332 206 | 379 241 | 411 286 | 305 218 | 368 285 | 400 334 | 442 399 | 484 470 | 400 351 | 453 432 | 484 | 516 | 547 |
| 21 | | 193 92 | 247 114 | 233 135 | 300 177 | 360 207 | 390 246 | 275 187 | 350 245 | 380 287 | 420 342 | 460 403 | 368 301 | 430 370 | 460 437 | 490 | 520 |
| 22 | | | | 212 117 | 272 152 | 336 179 | 371 212 | 249 162 | 320 212 | 362 248 | 400 295 | 438 348 | 334 260 | 410 320 | 438 377 | 467 454 | 495 |
| 23 | | | | 193 101 | 248 133 | 306 155 | 355 185 | 227 141 | 292 184 | 345 215 | 382 257 | 418 302 | 304 226 | 391 278 | 418 328 | 445 395 | 473 454 |
| 24 | | | | 176 89 | 227 116 | 280 136 | 328 162 | 208 123 | 267 161 | 326 189 | 365 225 | 400 265 | 279 198 | 364 243 | 400 287 | 426 346 | 452 398 |
| 25 | | | | 162 78 | 208 102 | 257 120 | 301 142 | 191 108 | 245 142 | 300 166 | 350 198 | 383 233 | 256 174 | 334 214 | 383 253 | 408 304 | 433 353 |
| 26 | | | | | | | | 176 96 | 226 125 | 276 147 | 327 175 | 368 206 | 236 154 | 308 190 | 367 224 | 392 269 | 416 310 |
| 27 | | | | | | | | 163 85 | 209 111 | 255 131 | 303 156 | 354 183 | 218 137 | 285 169 | 339 199 | 377 239 | 400 275 |
| 28 | | | | | | | | 151 76 | 194 99 | 237 117 | 281 139 | 337 164 | 202 122 | 264 151 | 315 177 | 363 214 | 385 246 |
| 29 | | | | | | | | 140 68 | 180 89 | 220 104 | 261 125 | 314 147 | 188 110 | 246 135 | 293 159 | 353 192 | 371 220 |
| 30 | | | | | | | | | | | | | 175 99 | 229 121 | 273 143 | 327 172 | 359 198 |
| 31 | | | | | | | | | | | | | 164 89 | 214 110 | 255 129 | 306 156 | 347 179 |
| 32 | | | | | | | | | | | | | 153 81 | 200 99 | 239 117 | 287 141 | 332 162 |
| | | | | | | | | | | | | | 144 74 | 188 90 | 224 107 | 269 128 | 311 148 |

See page LT-41 for notes

For Joist Depths 18" to 22" inclusive

| Joist Designation | 18H5 | 18H6 | 18H7 | 18H8 | 18H9 | 18H10 | 18H11 | 20H5 | 20H6 | 20H7 | 20H8 | 20H9 | 20H10 | 20H11 | 22H6 | 22H7 | 22H8 | 22H9 | 22H10 | 22H11 |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Nominal *Depth (in.) | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 22 | 22 | 22 | 22 | 22 | 22 |
| Resist. Moment (in.-lbs.) | 325,000 | 383,000 | 466,000 | 540,000 | 627,000 | 705,000 | 814,000 | 365,000 | 406,000 | 499,000 | 602,000 | 701,000 | 789,000 | 912,000 | 422,000 | 526,000 | 653,000 | 776,000 | 873,000 | 1,009,000 |
| Max. End React. (lbs.) | 4500 | 4800 | 5200 | 5400 | 5900 | 6600 | 7600 | 4800 | 5100 | 5400 | 5600 | 6400 | 7000 | 7900 | 5400 | 5600 | 5800 | 6700 | 7200 | 8100 |
| †Approx. Wt. (lbs./ft.) | 8.0 | 9.2 | 10.4 | 11.6 | 12.6 | 14.0 | 15.8 | 8.4 | 9.6 | 10.7 | 12.2 | 13.2 | 14.6 | 16.4 | 9.7 | 10.7 | 12.0 | 13.8 | 15.2 | 16.9 |
| Span in Feet | 500 | 533 | 578 | 600 | | | | | | | | | | | | | | | | |
| 19 | 474 | 505 | 547 | 568 | 621 | | | | | | | | | | | | | | | |
| 20 | 450 | 480 | 520 | 540 | 590 | | | 480 | 510 | 540 | 560 | 640 | | | | | | | | |
| 21 | 429 409 | 457 | 495 | 514 | 562 | 629 | | 457 | 486 | 514 | 533 | 610 | | | | | | | | |
| 22 | 409 356 | 436 420 | 473 | 491 | 536 | 600 | | 436 | 464 | 491 | 509 | 582 | 636 | | 491 | 509 | 527 | 609 | | |
| 23 | 391 312 | 417 368 | 452 441 | 470 | 513 | 574 | | 417 380 | 443 434 | 470 | 487 | 557 | 609 | | 470 | 487 | 504 | 583 | 626 | |
| 24 | 375 274 | 400 324 | 433 388 | 450 444 | 492 484 | 550 546 | 633 619 | 400 335 | 425 382 | 450 | 467 | 533 | 583 | | 450 446 | 467 | 483 | 558 | 600 | |
| 25 | 347 243 | 384 286 | 416 343 | 432 393 | 472 428 | 528 483 | 608 548 | 384 296 | 408 338 | 432 411 | 448 | 512 | 560 | 632 | 432 395 | 448 | 464 | 536 | 576 | 648 |
| 26 | 321 216 | 369 255 | 400 305 | 415 349 | 454 380 | 508 429 | 585 487 | 360 263 | 392 300 | 415 365 | 431 | 492 476 | 538 | 608 | 415 351 | 431 426 | 446 | 515 | 554 | 623 |
| 27 | 297 193 | 350 227 | 385 272 | 400 312 | 437 340 | 489 383 | 563 435 | 334 235 | 371 268 | 400 326 | 415 392 | 474 425 | 519 480 | 585 545 | 386 313 | 415 380 | 430 | 496 | 533 | 600 |
| 28 | 276 173 | 326 204 | 371 244 | 386 280 | 421 305 | 471 344 | 543 390 | 310 211 | 345 240 | 386 292 | 400 352 | 457 381 | 500 431 | 564 488 | 359 281 | 400 341 | 414 | 479 468 | 514 | 579 |
| 29 | 258 155 | 304 184 | 359 220 | 372 252 | 407 274 | 455 309 | 524 351 | 289 190 | 322 216 | 372 263 | 386 317 | 441 343 | 483 388 | 545 440 | 335 253 | 386 307 | 400 379 | 462 421 | 497 473 | 559 539 |
| 30 | 241 140 | 284 166 | 345 199 | 360 227 | 393 248 | 440 280 | 507 317 | 270 171 | 301 195 | 360 238 | 373 286 | 427 310 | 467 350 | 527 397 | 313 228 | 373 277 | 387 343 | 447 381 | 480 428 | 540 487 |
| 31 | 225 127 | 266 150 | 323 180 | 348 206 | 381 224 | 426 253 | 490 287 | 253 155 | 282 177 | 346 215 | 361 259 | 413 281 | 452 317 | 510 360 | 293 207 | 361 251 | 374 311 | 432 345 | 465 387 | 523 441 |
| 32 | 212 116 | 249 137 | 303 164 | 338 187 | 369 204 | 413 230 | 475 261 | 238 141 | 264 161 | 325 196 | 350 236 | 400 255 | 438 288 | 494 327 | 275 188 | 342 228 | 363 282 | 419 314 | 450 352 | 506 401 |
| 33 | 199 106 | 234 125 | 285 149 | 327 171 | 358 186 | 400 210 | 461 238 | 223 129 | 249 147 | 305 178 | 339 215 | 388 233 | 424 263 | 479 298 | 258 172 | 322 208 | 352 257 | 406 286 | 436 321 | 491 366 |
| 34 | 187 96 | 221 114 | 269 136 | 311 156 | 347 170 | 388 192 | 447 218 | 210 118 | 234 134 | 288 163 | 329 196 | 376 213 | 412 240 | 465 273 | 243 157 | 303 190 | 341 235 | 394 261 | 424 294 | 476 335 |
| 35 | 177 88 | 208 104 | 254 125 | 294 143 | 337 156 | 377 176 | 434 200 | 199 108 | 221 123 | 272 150 | 320 180 | 366 195 | 400 220 | 451 250 | 230 144 | 286 175 | 331 216 | 383 240 | 411 269 | 463 307 |
| 36 | 167 81 | 197 96 | 240 115 | 278 132 | 323 143 | 363 162 | 419 183 | 188 99 | 209 113 | 257 137 | 310 166 | 356 179 | 389 203 | 439 230 | 217 132 | 271 160 | 322 198 | 372 220 | 400 247 | 450 282 |
| 37 | | | | | | | | 178 91 | 198 104 | 243 127 | 293 152 | 341 165 | 378 187 | 427 212 | 206 122 | 256 148 | 314 183 | 362 203 | 389 228 | 438 260 |
| 38 | | | | | | | | 169 84 | 187 96 | 230 117 | 278 141 | 324 153 | 364 172 | 416 195 | 195 112 | 243 136 | 301 169 | 353 187 | 379 210 | 426 240 |
| 39 | | | | | | | | 160 78 | 178 89 | 219 108 | 264 130 | 307 141 | 346 159 | 400 181 | 185 104 | 231 126 | 286 156 | 340 173 | 369 195 | 415 222 |
| 40 | | | | | | | | 152 72 | 169 82 | 208 100 | 251 121 | 292 131 | 329 148 | 380 168 | 176 96 | 219 117 | 272 145 | 323 161 | 360 180 | 405 205 |
| 41 | | | | | | | | | | | | | | 167 89 | 209 109 | 259 134 | 308 149 | 346 167 | 395 191 | |
| 42 | | | | | | | | | | | | | | 159 83 | 199 101 | 247 125 | 293 139 | 330 156 | 381 177 | |
| 43 | | | | | | | | | | | | | | 152 78 | 190 94 | 235 116 | 280 129 | 315 145 | 364 165 | |
| 44 | | | | | | | | | | | | | | 145 72 | 181 88 | 225 109 | 267 121 | 301 136 | 347 154 | |

*Indicates Nominal Depth of steel joists only.

†Approximate Weights per Linear Foot of steel joists only. Accessories and nailer strip not included.

*†See manufacturers catalog for detailed information on specific joist types.

**Section 5.9 of the "Standard Specifications for Open Web Steel Joists, J- and H-Series" limits the design LIVE load deflection as follows:

FLOORS, 1/360 span. ROOFS, 1/360 of span where a plaster ceiling is attached or suspended; 1/240 of span for all other cases.



For Joist Depths 24" to 30" inclusive

| Joist Designation | 24H6 | 24H7 | 24H8 | 24H9 | 24H10 | 24H11 | 26H8 | 26H9 | 26H10 | 26H11 | 28H8 | 28H9 | 28H10 | 28H11 | 30H8 | 30H9 | 30H10 | 30H11 |
|---------------------------|------------|------------|------------|------------|------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|
| Nominal *Depth (in.) | 24 | 24 | 24 | 24 | 24 | 24 | 26 | 26 | 26 | 26 | 28 | 28 | 28 | 28 | 30 | 30 | 30 | 30 |
| Resist. Moment (in.-lbs.) | 462,000 | 576,000 | 716,000 | 851,000 | 957,000 | 1,106,000 | 784,000 | 925,000 | 1,040,000 | 1,203,000 | 846,000 | 1,000,000 | 1,124,000 | 1,300,000 | 909,000 | 1,075,000 | 1,207,000 | 1,397,000 |
| Max. End React. (lbs.) | 5600 | 5800 | 6000 | 7000 | 7500 | 8200 | 6700 | 7200 | 7600 | 8300 | 6700 | 7200 | 7700 | 8400 | 6800 | 7500 | 8100 | 8700 |
| †Approx. Wt. (lbs./ft.) | 10.3 | 11.5 | 12.7 | 14.0 | 15.5 | 17.5 | 12.8 | 14.8 | 16.2 | 17.9 | 13.5 | 15.2 | 16.8 | 18.3 | 14.2 | 15.4 | 17.3 | 18.8 |
| Span in Feet | | | | | | | | | | | | | | | | | | |
| 24 | 467 | 483 | 500 | 583 | 625 | | | | | | | | | | | | | |
| 25 | 448 | 464 | 480 | 560 | 600 | | | | | | | | | | | | | |
| 26 | 431 | 446 | 462 | 538 | 577 | 631 | 515 | 554 | 585 | 638 | | | | | | | | |
| 27 | 415 375 | 430 | 444 | 519 | 556 | 607 | 496 | 533 | 563 | 615 | | | | | | | | |
| 28 | 393 336 | 414 406 | 429 | 500 | 536 | 586 | 479 | 514 | 543 | 593 | 479 | 514 | 550 | 600 | | | | |
| 29 | 366 303 | 400 365 | 414 | 483 | 517 | 566 | 462 | 497 | 524 | 572 | 462 | 497 | 531 | 579 | | | | |
| 30 | 342 273 | 387 330 | 400 | 467 457 | 500 | 547 | 447 | 480 | 507 | 553 | 447 | 480 | 513 | 560 | 453 | 500 | 540 | 580 |
| 31 | 320 248 | 374 299 | 387 373 | 452 414 | 484 465 | 529 | 432 418 | 465 | 490 | 535 | 432 | 465 | 497 | 542 | 439 | 484 | 523 | 561 |
| 32 | 301 225 | 363 272 | 375 339 | 438 376 | 469 423 | 513 | 419 482 | 450 380 | 475 | 519 | 419 | 450 | 481 | 525 | 425 | 469 | 506 | 544 |
| 33 | 283 205 | 352 248 | 364 309 | 424 343 | 455 386 | 497 | 406 440 | 436 405 | 461 | 503 | 406 404 | 436 | 467 | 509 | 412 | 455 | 491 | 527 |
| 34 | 266 188 | 332 227 | 353 283 | 412 314 | 441 353 | 482 | 394 317 | 424 371 | 447 | 488 | 394 370 | 424 | 453 | 494 | 400 | 441 | 476 | 512 |
| 35 | 251 172 | 313 208 | 343 259 | 400 288 | 429 323 | 469 | 383 369 | 411 340 | 434 | 474 | 383 339 | 411 | 440 | 480 | 389 | 429 | 463 | 497 |
| 36 | 238 158 | 296 191 | 333 238 | 389 264 | 417 297 | 456 | 372 339 | 400 267 | 422 | 461 | 372 311 | 400 | 428 | 467 | 378 359 | 417 | 450 | 483 |
| 37 | 225 146 | 280 176 | 324 219 | 378 243 | 405 274 | 443 | 362 312 | 389 352 | 411 | 449 | 362 311 | 389 | 416 | 454 | 368 330 | 405 | 438 | 470 |
| 38 | 213 135 | 266 162 | 316 202 | 368 225 | 395 253 | 432 | 353 288 | 379 227 | 400 | 437 | 353 310 | 379 | 405 | 442 | 358 305 | 395 | 426 | 458 |
| 39 | 202 124 | 252 150 | 308 187 | 359 208 | 385 234 | 421 | 344 210 | 369 246 | 390 | 426 | 344 245 | 369 | 395 | 431 | 349 322 | 385 | 415 | 446 |
| 40 | 193 115 | 240 139 | 298 174 | 350 193 | 375 217 | 410 | 327 194 | 360 228 | 380 | 415 | 335 227 | 360 | 385 | 420 | 342 299 | 375 | 405 | 435 |
| 41 | 183 107 | 228 129 | 284 161 | 337 179 | 366 201 | 400 | 311 181 | 351 211 | 371 | 405 | 327 211 | 351 | 376 | 410 | 332 243 | 366 | 395 | 424 |
| 42 | 175 100 | 218 120 | 271 150 | 322 166 | 357 187 | 390 | 296 168 | 343 197 | 362 | 395 | 319 253 | 343 | 367 | 400 | 324 229 | 357 | 386 | 414 |
| 43 | 167 93 | 208 112 | 258 140 | 307 155 | 345 174 | 381 | 283 156 | 334 183 | 353 | 386 | 305 235 | 335 | 358 | 391 | 316 211 | 349 | 377 | 405 |
| 44 | 159 87 | 198 105 | 247 130 | 293 145 | 330 163 | 373 | 270 146 | 319 171 | 345 | 377 | 291 220 | 327 | 350 | 382 | 309 196 | 341 | 368 | 395 |
| 45 | 152 81 | 190 98 | 236 122 | 280 135 | 315 152 | 364 | 258 137 | 305 160 | 338 | 369 | 279 205 | 320 | 342 | 373 | 299 184 | 333 | 360 | 387 |
| 46 | 146 76 | 181 92 | 226 114 | 268 127 | 302 142 | 348 | 247 128 | 291 150 | 328 | 361 | 267 149 | 313 | 335 | 365 | 286 172 | 326 | 352 | 378 |
| 47 | 139 71 | 174 86 | 216 107 | 257 119 | 289 133 | 334 | 237 120 | 279 140 | 314 | 353 | 255 180 | 302 | 328 | 357 | 274 161 | 319 | 345 | 370 |
| 48 | 134 67 | 167 81 | 207 100 | 246 111 | 277 125 | 320 | 227 112 | 268 132 | 301 | 346 | 245 169 | 289 | 321 | 350 | 263 151 | 311 | 338 | 363 |
| 49 | | | | | | | 218 106 | 257 124 | 289 139 | 334 159 | 278 224 | 312 144 | 343 186 | 382 142 | 309 167 | 341 | 368 | 395 |
| 50 | | | | | | | 209 100 | 247 117 | 277 131 | 321 150 | 226 116 | 267 136 | 300 153 | 336 175 | 242 134 | 287 | 322 | 348 |
| 51 | | | | | | | 201 94 | 237 110 | 267 124 | 308 141 | 217 110 | 256 128 | 288 144 | 329 165 | 233 126 | 276 | 309 | 341 |
| 52 | | | | | | | 193 88 | 228 104 | 256 117 | 297 133 | 209 103 | 247 121 | 277 136 | 321 156 | 224 119 | 265 | 298 | 335 |
| 53 | | | | | | | | | | | 201 98 | 237 114 | 267 128 | 309 147 | 216 112 | 255 | 286 | 328 |
| 54 | | | | | | | | | | | 193 92 | 229 108 | 257 121 | 297 139 | 208 106 | 246 | 276 | 319 |
| 55 | | | | | | | | | | | 186 87 | 220 102 | 248 115 | 287 132 | 200 101 | 237 | 266 | 308 |
| 56 | | | | | | | | | | | 180 83 | 213 97 | 239 109 | 276 125 | 193 95 | 229 | 257 | 297 |
| 57 | | | | | | | | | | | | | | | 187 90 | 221 | 248 | 287 |
| 58 | | | | | | | | | | | | | | | 180 86 | 213 | 239 | 277 |
| 59 | | | | | | | | | | | | | | | 174 81 | 206 | 231 | 268 |
| 60 | | | | | | | | | | | | | | | 168 77 | 199 | 224 | 259 |

*Indicates Nominal Depth of steel joists only.

†Approximate Weights per Linear Foot of steel joists only. Accessories and nailer strip not included.

*†See manufacturers' catalog for detailed information on specific joist types.

**Section 5.9 of the "Standard Specifications for Open Web Steel Joists, J- and H-Series" limits the design LIVE load deflection as follows:

FLOORS, 1/360 span. ROOFS, 1/360 of span where a plaster ceiling is attached or suspended; 1/240 of span for all other cases.

