



Township of East Brunswick
Division of Construction Inspection

CHIMNEY LINER CALCULATIONS

Height of existing masonry chimney _____ ft.

Size of existing lining _____ x _____ in.

Type of existing lining _____

Size of existing flue connectors 1. _____ in. 2. _____ in. 3. _____ in. 4. _____ in.

One or more sides of chimney exposed to unconditioned space? _____

Any appliances fan assisted? _____ Which appliance? _____

Appliance 1 _____ BTU Input _____

Appliance 2 _____ BTU Input _____

Appliance 3 _____ BTU Input _____

Total Input _____

Single 90° Bend X .80

Total Maximum _____

Multiple 90° Bends X .80

Total Allowable _____

Calculations are based on a 20% reduction of the maximum input load using a single 90° Bend. Multiple 90° Bends require an ADDITIONAL 20% reduction to the initial 20% reduction. Reduction based on International Residential Code section G2428.2.7 and International Fuel Gas Code section 504.2.7

Over For Table

TABLE G2428.2(2) [504.2(2)]
TYPE B DOUBLE-WALL GAS VENT

| | |
|---------------------------|-----------------------------|
| Number of Appliances | Single |
| Appliance Type | Category I |
| Appliance Vent Connection | Single-wall metal connector |

| HEIGHT (H) (feet) | VENT DIAMETER—(D) inches | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------|-----|-------|-------|-------|-------|-------|-------|
| | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 12 | | | | | | | | | | | |
| | FAN Min | FAN Max | NAT Min | NAT Max | FAN Min | FAN Max | NAT Min | NAT Max | FAN Min | FAN Max | NAT Min | NAT Max | FAN Min | FAN Max | NAT Min | NAT Max | FAN Min | FAN Max | NAT Min | NAT Max | | | | | | | | |
| 6 | 0 | 38 | 77 | 45 | 59 | 151 | 85 | 249 | 140 | 126 | 373 | 204 | 165 | 522 | 284 | 211 | 695 | 369 | 267 | 894 | 469 | 371 | 1,118 | 569 | 537 | 1,639 | 849 | |
| | 2 | 39 | 51 | 36 | 60 | 96 | 66 | 85 | 156 | 104 | 123 | 231 | 156 | 320 | 213 | 201 | 423 | 284 | 251 | 541 | 368 | 347 | 673 | 453 | 498 | 979 | 648 | |
| | 4 | NA | NA | 33 | 74 | 92 | 63 | 102 | 152 | 102 | 146 | 225 | 152 | 187 | 313 | 208 | 237 | 416 | 277 | 295 | 533 | 360 | 409 | 664 | 443 | 584 | 971 | 638 |
| | 6 | NA | NA | 31 | 83 | 89 | 60 | 114 | 147 | 99 | 163 | 220 | 148 | 207 | 307 | 203 | 263 | 409 | 271 | 327 | 526 | 352 | 449 | 656 | 433 | 638 | 962 | 627 |
| | 8 | 37 | 83 | 50 | 58 | 164 | 93 | 83 | 273 | 154 | 123 | 412 | 234 | 161 | 580 | 319 | 206 | 777 | 414 | 258 | 1,002 | 536 | 360 | 1,257 | 658 | 521 | 1,852 | 967 |
| 8 | 2 | 39 | 56 | 39 | 59 | 108 | 75 | 83 | 176 | 119 | 121 | 261 | 179 | 363 | 246 | 197 | 482 | 321 | 246 | 617 | 417 | 339 | 768 | 513 | 486 | 1,120 | 743 | |
| | 5 | NA | NA | 37 | 77 | 102 | 69 | 107 | 168 | 114 | 151 | 252 | 171 | 352 | 235 | 245 | 470 | 311 | 305 | 604 | 404 | 418 | 754 | 500 | 598 | 1,104 | 730 | |
| | 8 | NA | NA | 33 | 90 | 95 | 64 | 122 | 161 | 107 | 175 | 243 | 163 | 223 | 342 | 225 | 280 | 458 | 300 | 344 | 591 | 392 | 470 | 740 | 486 | 665 | 1,089 | 715 |
| | 10 | 37 | 87 | 53 | 57 | 174 | 99 | 82 | 293 | 165 | 120 | 444 | 254 | 158 | 628 | 344 | 202 | 844 | 449 | 253 | 1,093 | 584 | 351 | 1,373 | 718 | 507 | 2,031 | 1,057 |
| | 15 | 39 | 61 | 41 | 59 | 117 | 80 | 82 | 193 | 128 | 119 | 287 | 194 | 153 | 400 | 272 | 193 | 531 | 354 | 242 | 681 | 456 | 332 | 849 | 559 | 475 | 1,242 | 848 |
| 10 | 5 | 52 | 56 | 39 | 76 | 111 | 76 | 105 | 185 | 122 | 148 | 277 | 186 | 388 | 261 | 241 | 518 | 344 | 299 | 667 | 443 | 409 | 834 | 544 | 584 | 1,224 | 825 | |
| | 10 | NA | NA | 34 | 97 | 100 | 68 | 132 | 171 | 112 | 188 | 261 | 171 | 369 | 241 | 296 | 497 | 325 | 363 | 643 | 423 | 492 | 808 | 520 | 688 | 1,194 | 788 | |
| | 15 | 36 | 93 | 57 | 56 | 190 | 111 | 80 | 325 | 186 | 116 | 499 | 283 | 153 | 713 | 388 | 195 | 966 | 523 | 244 | 1,259 | 681 | 336 | 1,591 | 838 | 488 | 2,374 | 1,237 |
| | 20 | 38 | 69 | 47 | 57 | 136 | 93 | 80 | 225 | 149 | 115 | 337 | 224 | 148 | 473 | 314 | 187 | 631 | 413 | 232 | 812 | 543 | 319 | 1,015 | 673 | 457 | 1,491 | 983 |
| | 30 | 51 | 63 | 44 | 75 | 128 | 86 | 102 | 216 | 140 | 144 | 326 | 217 | 182 | 459 | 298 | 231 | 616 | 400 | 287 | 795 | 526 | 392 | 997 | 657 | 562 | 1,469 | 963 |
| 15 | 10 | NA | NA | 39 | 95 | 116 | 79 | 128 | 201 | 131 | 182 | 308 | 203 | 228 | 438 | 284 | 284 | 592 | 381 | 349 | 768 | 501 | 470 | 966 | 628 | 664 | 1,433 | 928 |
| | 15 | NA | NA | NA | NA | NA | 72 | 158 | 186 | 124 | 220 | 290 | 192 | 272 | 418 | 269 | 334 | 568 | 367 | 404 | 742 | 484 | 540 | 937 | 601 | 750 | 1,399 | 894 |
| | 20 | 35 | 96 | 60 | 54 | 200 | 118 | 78 | 346 | 201 | 114 | 537 | 306 | 149 | 772 | 428 | 190 | 1,053 | 573 | 238 | 1,379 | 750 | 326 | 1,751 | 927 | 473 | 2,631 | 1,346 |
| | 25 | 37 | 74 | 50 | 56 | 148 | 99 | 78 | 248 | 165 | 113 | 375 | 248 | 144 | 528 | 344 | 182 | 708 | 468 | 227 | 914 | 611 | 309 | 1,146 | 754 | 443 | 1,689 | 1,098 |
| | 30 | 50 | 68 | 47 | 73 | 140 | 94 | 100 | 239 | 158 | 141 | 363 | 239 | 178 | 514 | 334 | 224 | 692 | 457 | 279 | 896 | 596 | 381 | 1,126 | 734 | 547 | 1,665 | 1,074 |
| 20 | 10 | NA | NA | 41 | 93 | 129 | 86 | 125 | 223 | 146 | 177 | 344 | 224 | 222 | 491 | 316 | 277 | 666 | 437 | 339 | 866 | 570 | 457 | 1,092 | 702 | 646 | 1,626 | 1,037 |
| | 15 | NA | NA | NA | NA | NA | 80 | 155 | 208 | 136 | 216 | 325 | 210 | 264 | 469 | 301 | 325 | 640 | 419 | 393 | 838 | 549 | 526 | 1,060 | 677 | 730 | 1,587 | 1,005 |
| | 20 | NA | NA | NA | NA | NA | NA | 186 | 192 | 126 | 254 | 306 | 196 | 309 | 448 | 285 | 374 | 616 | 400 | 448 | 810 | 526 | 592 | 1,028 | 651 | 808 | 1,550 | 973 |
| | 25 | 34 | 99 | 63 | 53 | 211 | 127 | 76 | 372 | 219 | 110 | 584 | 334 | 144 | 849 | 472 | 184 | 1,168 | 647 | 229 | 1,542 | 852 | 312 | 1,971 | 1,056 | 454 | 2,996 | 1,545 |
| | 30 | 37 | 80 | 56 | 55 | 164 | 111 | 76 | 281 | 183 | 109 | 429 | 279 | 139 | 610 | 392 | 175 | 823 | 533 | 219 | 1,069 | 698 | 296 | 1,346 | 863 | 424 | 1,999 | 1,308 |
| 30 | 5 | 49 | 74 | 52 | 72 | 157 | 106 | 98 | 271 | 173 | 136 | 417 | 271 | 171 | 595 | 382 | 215 | 806 | 521 | 269 | 1,049 | 684 | 366 | 1,324 | 846 | 524 | 1,971 | 1,283 |
| | 10 | NA | NA | NA | 91 | 144 | 98 | 122 | 255 | 168 | 171 | 397 | 257 | 213 | 570 | 367 | 265 | 777 | 501 | 327 | 1,017 | 662 | 440 | 1,287 | 821 | 620 | 1,927 | 1,234 |
| | 15 | NA | NA | NA | 115 | 131 | NA | 151 | 239 | 157 | 208 | 377 | 242 | 255 | 547 | 349 | 312 | 750 | 481 | 379 | 985 | 638 | 507 | 1,251 | 794 | 702 | 1,884 | 1,205 |
| | 20 | NA | NA | NA | NA | NA | NA | 181 | 223 | NA | 246 | 357 | 228 | 298 | 524 | 333 | 360 | 723 | 461 | 433 | 955 | 615 | 570 | 1,216 | 768 | 780 | 1,841 | 1,166 |
| | 30 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 389 | 477 | 305 | 461 | 670 | 426 | 541 | 895 | 574 | 704 | 1,147 | 720 | 937 | 1,759 | 1,101 |
| 50 | 0 | 33 | 99 | 66 | 51 | 213 | 133 | 73 | 394 | 230 | 105 | 629 | 361 | 138 | 928 | 515 | 176 | 1,292 | 704 | 220 | 1,724 | 948 | 295 | 2,223 | 1,189 | 428 | 3,432 | 1,818 |
| | 2 | 36 | 84 | 61 | 53 | 181 | 121 | 73 | 318 | 205 | 104 | 495 | 312 | 133 | 712 | 443 | 168 | 971 | 613 | 209 | 1,273 | 811 | 280 | 1,615 | 1,007 | 401 | 2,426 | 1,509 |
| | 5 | 48 | 80 | NA | 70 | 174 | 117 | 94 | 308 | 198 | 131 | 482 | 305 | 164 | 696 | 435 | 204 | 953 | 602 | 257 | 1,252 | 795 | 347 | 1,591 | 991 | 496 | 2,396 | 1,490 |
| | 10 | NA | NA | NA | 89 | 160 | NA | 118 | 292 | 186 | 162 | 461 | 292 | 203 | 671 | 420 | 253 | 923 | 583 | 313 | 1,217 | 765 | 418 | 1,551 | 963 | 589 | 2,347 | 1,455 |
| | 15 | NA | NA | NA | 112 | 148 | NA | 145 | 275 | 174 | 199 | 441 | 280 | 244 | 646 | 405 | 299 | 894 | 562 | 363 | 1,183 | 736 | 481 | 1,512 | 934 | 668 | 2,299 | 1,421 |
| 20 | NA | NA | NA | NA | NA | NA | 176 | 257 | NA | 236 | 420 | 267 | 285 | 622 | 389 | 345 | 866 | 543 | 415 | 1,150 | 708 | 544 | 1,473 | 906 | 741 | 2,251 | 1,387 | |
| 30 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 315 | 376 | NA | 373 | 573 | NA | 442 | 809 | 502 | 521 | 1,086 | 649 | 674 | 1,399 | 848 | 892 | 2,159 | 1,318 | |