

Errata to
ASHRAE Pocket Guide for Air Conditioning, Heating, Ventilation, Refrigeration
(I-P Edition), Seventh Edition
March 3, 2010

Page 6: In the tables on this page, the text that currently reads “Recommended Duct Sea Levels” should be corrected to read “Recommended Duct Seal Levels.”

Page 77: The table titled “Approximate Range of Variation for K Factors” currently on this page should be deleted and replaced with the table titled “Copper Tube Data” reproduced below.

Copper Tube Data

| Nominal Diameter, in. | Type | Wall Thickness, t, in. | Diameter | | Surface Area | | Cross Section | | Weight | | Working Pressure ^{a,b,c} ASTM B88 to 250°F | |
|-----------------------|-------|------------------------|----------------|---------------|------------------------------|-----------------------------|-----------------------------|----------------------------|-------------|--------------|--|-------------|
| | | | Outside D, in. | Inside d, in. | Outside, ft ² /ft | Inside, ft ² /ft | Metal Area, in ² | Flow Area, in ² | Tube, lb/ft | Water, lb/ft | Annealed, psig | Drawn, psig |
| 1/4 | K | 0.035 | 0.375 | 0.305 | 0.098 | 0.080 | 0.037 | 0.073 | 0.145 | 0.032 | 851 | 1596 |
| | L | 0.030 | 0.375 | 0.315 | 0.098 | 0.082 | 0.033 | 0.078 | 0.126 | 0.034 | 730 | 1368 |
| 3/8 | K | 0.049 | 0.500 | 0.402 | 0.131 | 0.105 | 0.069 | 0.127 | 0.269 | 0.055 | 894 | 1676 |
| | L | 0.035 | 0.500 | 0.430 | 0.131 | 0.113 | 0.051 | 0.145 | 0.198 | 0.063 | 638 | 1197 |
| 1/2 | M | 0.025 | 0.500 | 0.450 | 0.131 | 0.118 | 0.037 | 0.159 | 0.145 | 0.069 | 456 | 855 |
| | K | 0.049 | 0.625 | 0.527 | 0.164 | 0.138 | 0.089 | 0.218 | 0.344 | 0.094 | 715 | 1341 |
| | L | 0.040 | 0.625 | 0.545 | 0.164 | 0.143 | 0.074 | 0.233 | 0.285 | 0.101 | 584 | 1094 |
| | M | 0.028 | 0.625 | 0.569 | 0.164 | 0.149 | 0.053 | 0.254 | 0.203 | 0.110 | 409 | 766 |
| 5/8 | K | 0.049 | 0.750 | 0.652 | 0.196 | 0.171 | 0.108 | 0.334 | 0.418 | 0.144 | 596 | 1117 |
| | L | 0.042 | 0.750 | 0.666 | 0.196 | 0.174 | 0.093 | 0.348 | 0.362 | 0.151 | 511 | 958 |
| 3/4 | K | 0.065 | 0.875 | 0.745 | 0.229 | 0.195 | 0.165 | 0.436 | 0.641 | 0.189 | 677 | 1270 |
| | L | 0.045 | 0.875 | 0.785 | 0.229 | 0.206 | 0.117 | 0.484 | 0.455 | 0.209 | 469 | 879 |
| 1 | M | 0.032 | 0.875 | 0.811 | 0.229 | 0.212 | 0.085 | 0.517 | 0.328 | 0.224 | 334 | 625 |
| | K | 0.065 | 1.125 | 0.995 | 0.295 | 0.260 | 0.216 | 0.778 | 0.839 | 0.336 | 527 | 988 |
| | L | 0.050 | 1.125 | 1.025 | 0.295 | 0.268 | 0.169 | 0.825 | 0.654 | 0.357 | 405 | 760 |
| | M | 0.035 | 1.125 | 1.055 | 0.295 | 0.276 | 0.120 | 0.874 | 0.464 | 0.378 | 284 | 532 |
| 1-1/4 | K | 0.065 | 1.375 | 1.245 | 0.360 | 0.326 | 0.268 | 1.217 | 1.037 | 0.527 | 431 | 808 |
| | L | 0.055 | 1.375 | 1.265 | 0.360 | 0.331 | 0.228 | 1.257 | 0.884 | 0.544 | 365 | 684 |
| | M | 0.042 | 1.375 | 1.291 | 0.360 | 0.338 | 0.176 | 1.309 | 0.682 | 0.566 | 279 | 522 |
| 1-1/2 | DWV | 0.040 | 1.375 | 1.295 | 0.360 | 0.339 | 0.168 | 1.317 | 0.650 | 0.570 | 265 | 497 |
| | K | 0.072 | 1.625 | 1.481 | 0.425 | 0.388 | 0.351 | 1.723 | 1.361 | 0.745 | 404 | 758 |
| | L | 0.060 | 1.625 | 1.505 | 0.425 | 0.394 | 0.295 | 1.779 | 1.143 | 0.770 | 337 | 631 |
| | M | 0.049 | 1.625 | 1.527 | 0.425 | 0.400 | 0.243 | 1.831 | 0.940 | 0.792 | 275 | 516 |
| DWV | 0.042 | 1.625 | 1.541 | 0.425 | 0.403 | 0.209 | 1.865 | 0.809 | 0.807 | 236 | 442 | |
| 2 | K | 0.083 | 2.125 | 1.959 | 0.556 | 0.513 | 0.532 | 3.014 | 2.063 | 1.304 | 356 | 668 |
| | L | 0.070 | 2.125 | 1.985 | 0.556 | 0.520 | 0.452 | 3.095 | 1.751 | 1.339 | 300 | 573 |
| | M | 0.058 | 2.125 | 2.009 | 0.556 | 0.526 | 0.377 | 3.170 | 1.459 | 1.372 | 249 | 467 |
| | DWV | 0.042 | 2.125 | 2.041 | 0.556 | 0.534 | 0.275 | 3.272 | 1.065 | 1.416 | 180 | 338 |
| 2-1/2 | K | 0.095 | 2.625 | 2.435 | 0.687 | 0.637 | 0.755 | 4.657 | 2.926 | 2.015 | 330 | 619 |
| | L | 0.080 | 2.625 | 2.465 | 0.687 | 0.645 | 0.640 | 4.772 | 2.479 | 2.065 | 278 | 521 |
| 3 | M | 0.065 | 2.625 | 2.495 | 0.687 | 0.653 | 0.523 | 4.889 | 2.026 | 2.116 | 226 | 423 |
| | K | 0.109 | 3.125 | 2.907 | 0.818 | 0.761 | 1.033 | 6.637 | 4.002 | 2.872 | 318 | 596 |
| | L | 0.090 | 3.125 | 2.945 | 0.818 | 0.771 | 0.858 | 6.812 | 3.325 | 2.947 | 263 | 492 |
| | M | 0.072 | 3.125 | 2.981 | 0.818 | 0.780 | 0.691 | 6.979 | 2.676 | 3.020 | 210 | 394 |
| DWV | 0.045 | 3.125 | 3.035 | 0.818 | 0.795 | 0.435 | 7.234 | 1.687 | 3.130 | 131 | 246 | |
| 3-1/2 | K | 0.120 | 3.625 | 3.385 | 0.949 | 0.886 | 1.321 | 8.999 | 5.120 | 3.894 | 302 | 566 |
| | L | 0.100 | 3.625 | 3.425 | 0.949 | 0.897 | 1.107 | 9.213 | 4.291 | 3.987 | 252 | 472 |
| 4 | M | 0.083 | 3.625 | 3.459 | 0.949 | 0.906 | 0.924 | 9.397 | 3.579 | 4.066 | 209 | 392 |
| | K | 0.134 | 4.125 | 3.857 | 1.080 | 1.010 | 1.680 | 11.684 | 6.510 | 5.056 | 296 | 555 |
| | L | 0.110 | 4.125 | 3.905 | 1.080 | 1.022 | 1.387 | 11.977 | 5.377 | 5.182 | 243 | 456 |
| 5 | M | 0.095 | 4.125 | 3.935 | 1.080 | 1.030 | 1.203 | 12.161 | 4.661 | 5.262 | 210 | 394 |
| | DWV | 0.058 | 4.125 | 4.009 | 1.080 | 1.050 | 0.741 | 12.623 | 2.872 | 5.462 | 128 | 240 |
| | K | 0.160 | 5.125 | 4.805 | 1.342 | 1.258 | 2.496 | 18.133 | 9.671 | 7.846 | 285 | 534 |
| | L | 0.125 | 5.125 | 4.875 | 1.342 | 1.276 | 1.963 | 18.665 | 7.609 | 8.077 | 222 | 417 |
| 5 | M | 0.109 | 5.125 | 4.907 | 1.342 | 1.285 | 1.718 | 18.911 | 6.656 | 8.183 | 194 | 364 |
| | DWV | 0.072 | 5.125 | 4.981 | 1.342 | 1.304 | 1.143 | 19.486 | 4.429 | 8.432 | 128 | 240 |
| 6 | K | 0.192 | 6.125 | 5.741 | 1.603 | 1.503 | 3.579 | 25.886 | 13.867 | 11.201 | 286 | 536 |
| | L | 0.140 | 6.125 | 5.845 | 1.603 | 1.530 | 2.632 | 26.832 | 10.200 | 11.610 | 208 | 391 |
| | M | 0.122 | 6.125 | 5.881 | 1.603 | 1.540 | 2.301 | 27.164 | 8.916 | 11.754 | 182 | 341 |
| | DWV | 0.083 | 6.125 | 5.959 | 1.603 | 1.560 | 1.575 | 27.889 | 6.105 | 12.068 | 124 | 232 |
| 8 | K | 0.271 | 8.125 | 7.583 | 2.127 | 1.985 | 6.687 | 45.162 | 25.911 | 19.542 | 304 | 570 |
| | L | 0.200 | 8.125 | 7.725 | 2.127 | 2.022 | 4.979 | 46.869 | 19.295 | 20.280 | 224 | 421 |
| | M | 0.170 | 8.125 | 7.785 | 2.127 | 2.038 | 4.249 | 47.600 | 16.463 | 20.597 | 191 | 358 |
| | DWV | 0.109 | 8.125 | 7.907 | 2.127 | 2.070 | 2.745 | 49.104 | 10.637 | 21.247 | 122 | 229 |
| 10 | K | 0.338 | 10.125 | 9.449 | 2.651 | 2.474 | 10.392 | 70.123 | 40.271 | 30.342 | 304 | 571 |
| | L | 0.250 | 10.125 | 9.625 | 2.651 | 2.520 | 7.756 | 72.760 | 30.054 | 31.483 | 225 | 422 |
| | M | 0.212 | 10.125 | 9.701 | 2.651 | 2.540 | 6.602 | 73.913 | 25.584 | 31.982 | 191 | 358 |
| 12 | K | 0.405 | 12.125 | 11.315 | 3.174 | 2.962 | 14.912 | 100.554 | 57.784 | 43.510 | 305 | 571 |
| | L | 0.280 | 12.125 | 11.565 | 3.174 | 3.028 | 10.419 | 105.046 | 40.375 | 45.454 | 211 | 395 |
| | M | 0.254 | 12.125 | 11.617 | 3.174 | 3.041 | 9.473 | 105.993 | 36.706 | 45.863 | 191 | 358 |

^a When using soldered or brazed fittings, the joint determines the limiting pressure. Working pressures were calculated using ASME *Standard* B31.9 allowable stresses. A 5% mill tolerance has been used on the wall thickness. Higher tube ratings can be calculated using the allowable stress for lower temperatures.

^b If soldered or brazed fittings are used on hard drawn tubing, use the annealed ratings. Full-tube allowable pressures can be used with suitably rated flare or compression-type fittings.

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ASHRAE Pocket Guide for Air Conditioning, Heating, Ventilation, Refrigeration
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Page 76: The table titled “Steel Pipe Data” should be replaced by the table reproduced below, which includes the necessary footnotes.

Steel Pipe Data

| Nominal Size, in. | Pipe OD, in. | Schedule Number or Weight ^a | Wall Thickness t, in. | Inside Diameter d, in. | Surface Area | | Cross Section | | Weight | | Working Pressure ^c ASTM A53 B to 400°F | | |
|-------------------|--------------|--|-----------------------|------------------------|------------------------------|-----------------------------|-----------------------------|----------------------------|-------------|--------------|---|-------------------------|------|
| | | | | | Outside, ft ² /ft | Inside, ft ² /ft | Metal Area, in ² | Flow Area, in ² | Pipe, lb/ft | Water, lb/ft | Mfr. Process | Joint Type ^b | psig |
| 1/4 | 0.540 | 40 ST | 0.088 | 0.364 | 0.141 | 0.095 | 0.125 | 0.104 | 0.424 | 0.045 | CW | T | 188 |
| | | 80 XS | 0.119 | 0.302 | 0.141 | 0.079 | 0.157 | 0.072 | 0.535 | 0.031 | CW | T | 871 |
| 3/8 | 0.675 | 40 ST | 0.091 | 0.493 | 0.177 | 0.129 | 0.167 | 0.191 | 0.567 | 0.083 | CW | T | 203 |
| | | 80 XS | 0.126 | 0.423 | 0.177 | 0.111 | 0.217 | 0.141 | 0.738 | 0.061 | CW | T | 820 |
| 1/2 | 0.840 | 40 ST | 0.109 | 0.622 | 0.220 | 0.163 | 0.250 | 0.304 | 0.850 | 0.131 | CW | T | 214 |
| | | 80 XS | 0.147 | 0.546 | 0.220 | 0.143 | 0.320 | 0.234 | 1.087 | 0.101 | CW | T | 753 |
| 3/4 | 1.050 | 40 ST | 0.113 | 0.824 | 0.275 | 0.216 | 0.333 | 0.533 | 1.13 | 0.231 | CW | T | 217 |
| | | 80 XS | 0.154 | 0.742 | 0.275 | 0.194 | 0.433 | 0.432 | 1.47 | 0.187 | CW | T | 681 |
| 1 | 1.315 | 40 ST | 0.133 | 1.049 | 0.344 | 0.275 | 0.494 | 0.864 | 1.68 | 0.374 | CW | T | 226 |
| | | 80 XS | 0.179 | 0.957 | 0.344 | 0.251 | 0.639 | 0.719 | 2.17 | 0.311 | CW | T | 642 |
| 1-1/4 | 1.660 | 40 ST | 0.140 | 1.380 | 0.435 | 0.361 | 0.669 | 1.50 | 2.27 | 0.647 | CW | T | 229 |
| | | 80 XS | 0.191 | 1.278 | 0.435 | 0.335 | 0.881 | 1.28 | 2.99 | 0.555 | CW | T | 594 |
| 1-1/2 | 1.900 | 40 ST | 0.145 | 1.610 | 0.497 | 0.421 | 0.799 | 2.04 | 2.72 | 0.881 | CW | T | 231 |
| | | 80 XS | 0.200 | 1.500 | 0.497 | 0.393 | 1.068 | 1.77 | 3.63 | 0.765 | CW | T | 576 |
| 2 | 2.375 | 40 ST | 0.154 | 2.067 | 0.622 | 0.541 | 1.07 | 3.36 | 3.65 | 1.45 | CW | T | 230 |
| | | 80 XS | 0.218 | 1.939 | 0.622 | 0.508 | 1.48 | 2.95 | 5.02 | 1.28 | CW | T | 551 |
| 2-1/2 | 2.875 | 40 ST | 0.203 | 2.469 | 0.753 | 0.646 | 1.70 | 4.79 | 5.79 | 2.07 | CW | W | 533 |
| | | 80 XS | 0.276 | 2.323 | 0.753 | 0.608 | 2.25 | 4.24 | 7.66 | 1.83 | CW | W | 835 |
| 3 | 3.500 | 40 ST | 0.216 | 3.068 | 0.916 | 0.803 | 2.23 | 7.39 | 7.57 | 3.20 | CW | W | 482 |
| | | 80 XS | 0.300 | 2.900 | 0.916 | 0.759 | 3.02 | 6.60 | 10.25 | 2.86 | CW | W | 767 |
| 4 | 4.500 | 40 ST | 0.237 | 4.026 | 1.178 | 1.054 | 3.17 | 12.73 | 10.78 | 5.51 | CW | W | 430 |
| | | 80 XS | 0.337 | 3.826 | 1.178 | 1.002 | 4.41 | 11.50 | 14.97 | 4.98 | CW | W | 695 |
| 6 | 6.625 | 40 ST | 0.280 | 6.065 | 1.734 | 1.588 | 5.58 | 28.89 | 18.96 | 12.50 | ERW | W | 696 |
| | | 80 XS | 0.432 | 5.761 | 1.734 | 1.508 | 8.40 | 26.07 | 28.55 | 11.28 | ERW | W | 1209 |
| 8 | 8.625 | 30 | 0.277 | 8.071 | 2.258 | 2.113 | 7.26 | 51.16 | 24.68 | 22.14 | ERW | W | 526 |
| | | 40 ST | 0.322 | 7.981 | 2.258 | 2.089 | 8.40 | 50.03 | 28.53 | 21.65 | ERW | W | 643 |
| | | 80 XS | 0.500 | 7.625 | 2.258 | 1.996 | 12.76 | 45.66 | 43.35 | 19.76 | ERW | W | 1106 |
| 10 | 10.75 | 30 | 0.307 | 10.136 | 2.814 | 2.654 | 10.07 | 80.69 | 34.21 | 34.92 | ERW | W | 485 |
| | | 40 ST | 0.365 | 10.020 | 2.814 | 2.623 | 11.91 | 78.85 | 40.45 | 34.12 | ERW | W | 606 |
| | | XS | 0.500 | 9.750 | 2.814 | 2.552 | 16.10 | 74.66 | 54.69 | 32.31 | ERW | W | 887 |
| | | 80 | 0.593 | 9.564 | 2.814 | 2.504 | 18.92 | 71.84 | 64.28 | 31.09 | ERW | W | 1081 |
| 12 | 12.75 | 30 | 0.330 | 12.090 | 3.338 | 3.165 | 12.88 | 114.8 | 43.74 | 49.68 | ERW | W | 449 |
| | | ST | 0.375 | 12.000 | 3.338 | 3.141 | 14.58 | 113.1 | 49.52 | 48.94 | ERW | W | 528 |
| | | 40 | 0.406 | 11.938 | 3.338 | 3.125 | 15.74 | 111.9 | 53.48 | 48.44 | ERW | W | 583 |
| | | XS | 0.500 | 11.750 | 3.338 | 3.076 | 19.24 | 108.4 | 65.37 | 46.92 | ERW | W | 748 |
| 14 | 14.00 | 80 | 0.687 | 11.376 | 3.338 | 2.978 | 26.03 | 101.6 | 88.44 | 43.98 | ERW | W | 1076 |
| | | 30 ST | 0.375 | 13.250 | 3.665 | 3.469 | 16.05 | 137.9 | 54.53 | 59.67 | ERW | W | 481 |
| | | 40 | 0.437 | 13.126 | 3.665 | 3.436 | 18.62 | 135.3 | 63.25 | 58.56 | ERW | W | 580 |
| | | XS | 0.500 | 13.000 | 3.665 | 3.403 | 21.21 | 132.7 | 72.04 | 57.44 | ERW | W | 681 |
| 16 | 16.00 | 80 | 0.750 | 12.500 | 3.665 | 3.272 | 31.22 | 122.7 | 106.05 | 53.11 | ERW | W | 1081 |
| | | 30 ST | 0.375 | 15.250 | 4.189 | 3.992 | 18.41 | 182.6 | 62.53 | 79.04 | ERW | W | 421 |
| 40 XS | 0.500 | 15.000 | 4.189 | 3.927 | 24.35 | 176.7 | 82.71 | 76.47 | ERW | W | 596 | | |
| 18 | 18.00 | ST | 0.375 | 17.250 | 4.712 | 4.516 | 20.76 | 233.7 | 70.54 | 101.13 | ERW | W | 374 |
| | | 30 | 0.437 | 17.126 | 4.712 | 4.483 | 24.11 | 230.3 | 81.91 | 99.68 | ERW | W | 451 |
| | | XS | 0.500 | 17.000 | 4.712 | 4.450 | 27.49 | 227.0 | 93.38 | 98.22 | ERW | W | 530 |
| 20 | 20.00 | 40 | 0.562 | 16.876 | 4.712 | 4.418 | 30.79 | 223.7 | 104.59 | 96.80 | ERW | W | 607 |
| | | 20 ST | 0.375 | 19.250 | 5.236 | 5.039 | 23.12 | 291.0 | 78.54 | 125.94 | ERW | W | 337 |
| | | 30 XS | 0.500 | 19.000 | 5.236 | 4.974 | 30.63 | 283.5 | 104.05 | 122.69 | ERW | W | 477 |
| 40 | 0.593 | 18.814 | 5.236 | 4.925 | 36.15 | 278.0 | 122.82 | 120.30 | ERW | W | 581 | | |

^aNumbers are schedule numbers per ASME Standard B36.10M; ST = Standard Weight; XS = Extra Strong.
^bT = Thread; W = Weld
^cWorking pressures were calculated per ASME B31.9 using furnace butt-weld (continuous weld, CW) pipe through 4 in. and electric resistance weld (ERW) thereafter. The allowance A has been taken as
(1) 12.5% of t for mill tolerance on pipe wall thickness, plus
(2) An arbitrary corrosion allowance of 0.025 in. for pipe sizes through NPS 2 and 0.065 in. from NPS 2½ through 20, plus
(3) A thread cutting allowance for sizes through NPS 2.
Because the pipe wall thickness of threaded standard pipe is so small after deducting the allowance A, the mechanical strength of the pipe is impaired. It is good practice to limit standard weight threaded pipe pressure to 90 psig for steam and 125 psig for water.

Page 77: The “Copper Tube Data” table supplied in the errata sheet dated 3/3/2010 should be replaced by the table reproduced below (which includes the footnotes intact).

| Copper Tube Data | | | | | | | | | | | | |
|-----------------------|------|--------------------------------|------------------------|-----------------------|------------------------------|-----------------------------|-----------------------------|----------------------------|-------------|--------------|--|-------------|
| Nominal Diameter, in. | Type | Wall Thickness, <i>t</i> , in. | Diameter | | Surface Area | | Cross Section | | Weight | | Working Pressure ^{a,b,c} ASTM B88 to 250°F | |
| | | | Outside <i>D</i> , in. | Inside <i>d</i> , in. | Outside, ft ² /ft | Inside, ft ² /ft | Metal Area, in ² | Flow Area, in ² | Tube, lb/ft | Water, lb/ft | Annealed, psig | Drawn, psig |
| 1/4 | K | 0.035 | 0.375 | 0.305 | 0.098 | 0.080 | 0.037 | 0.073 | 0.145 | 0.032 | 851 | 1596 |
| | L | 0.030 | 0.375 | 0.315 | 0.098 | 0.082 | 0.033 | 0.078 | 0.126 | 0.034 | 730 | 1368 |
| 3/8 | K | 0.049 | 0.500 | 0.402 | 0.131 | 0.105 | 0.069 | 0.127 | 0.269 | 0.055 | 894 | 1676 |
| | L | 0.035 | 0.500 | 0.430 | 0.131 | 0.113 | 0.051 | 0.145 | 0.198 | 0.063 | 638 | 1197 |
| | M | 0.025 | 0.500 | 0.450 | 0.131 | 0.118 | 0.037 | 0.159 | 0.145 | 0.069 | 456 | 855 |
| 1/2 | K | 0.049 | 0.625 | 0.527 | 0.164 | 0.138 | 0.089 | 0.218 | 0.344 | 0.094 | 715 | 1341 |
| | L | 0.040 | 0.625 | 0.545 | 0.164 | 0.143 | 0.074 | 0.233 | 0.285 | 0.101 | 584 | 1094 |
| | M | 0.028 | 0.625 | 0.569 | 0.164 | 0.149 | 0.053 | 0.254 | 0.203 | 0.110 | 409 | 766 |
| 5/8 | K | 0.049 | 0.750 | 0.652 | 0.196 | 0.171 | 0.108 | 0.334 | 0.418 | 0.144 | 596 | 1117 |
| | L | 0.042 | 0.750 | 0.666 | 0.196 | 0.174 | 0.093 | 0.348 | 0.362 | 0.151 | 511 | 958 |
| 3/4 | K | 0.065 | 0.875 | 0.745 | 0.229 | 0.195 | 0.165 | 0.436 | 0.641 | 0.189 | 677 | 1270 |
| | L | 0.045 | 0.875 | 0.785 | 0.229 | 0.206 | 0.117 | 0.484 | 0.455 | 0.209 | 469 | 879 |
| | M | 0.032 | 0.875 | 0.811 | 0.229 | 0.212 | 0.085 | 0.517 | 0.328 | 0.224 | 334 | 625 |
| 1 | K | 0.065 | 1.125 | 0.995 | 0.295 | 0.260 | 0.216 | 0.778 | 0.839 | 0.336 | 527 | 988 |
| | L | 0.050 | 1.125 | 1.025 | 0.295 | 0.268 | 0.169 | 0.825 | 0.654 | 0.357 | 405 | 760 |
| | M | 0.035 | 1.125 | 1.055 | 0.295 | 0.276 | 0.120 | 0.874 | 0.464 | 0.378 | 284 | 532 |
| 1-1/4 | K | 0.065 | 1.375 | 1.245 | 0.360 | 0.326 | 0.268 | 1.217 | 1.037 | 0.527 | 431 | 808 |
| | L | 0.055 | 1.375 | 1.265 | 0.360 | 0.331 | 0.228 | 1.257 | 0.884 | 0.544 | 365 | 684 |
| | M | 0.042 | 1.375 | 1.291 | 0.360 | 0.338 | 0.176 | 1.309 | 0.682 | 0.566 | 279 | 522 |
| 1-1/2 | DWV | 0.040 | 1.375 | 1.295 | 0.360 | 0.339 | 0.168 | 1.317 | 0.650 | 0.570 | 265 | 497 |
| | K | 0.072 | 1.625 | 1.481 | 0.425 | 0.388 | 0.351 | 1.723 | 1.361 | 0.745 | 404 | 758 |
| | L | 0.060 | 1.625 | 1.505 | 0.425 | 0.394 | 0.295 | 1.779 | 1.143 | 0.770 | 337 | 631 |
| 2 | M | 0.049 | 1.625 | 1.527 | 0.425 | 0.400 | 0.243 | 1.831 | 0.940 | 0.792 | 275 | 516 |
| | DWV | 0.042 | 1.625 | 1.541 | 0.425 | 0.403 | 0.209 | 1.865 | 0.809 | 0.807 | 236 | 442 |
| | K | 0.083 | 2.125 | 1.959 | 0.556 | 0.513 | 0.532 | 3.014 | 2.063 | 1.304 | 356 | 668 |
| 2-1/2 | L | 0.070 | 2.125 | 1.985 | 0.556 | 0.520 | 0.452 | 3.095 | 1.751 | 1.339 | 300 | 573 |
| | M | 0.058 | 2.125 | 2.009 | 0.556 | 0.526 | 0.377 | 3.170 | 1.459 | 1.372 | 249 | 467 |
| | DWV | 0.042 | 2.125 | 2.041 | 0.556 | 0.534 | 0.275 | 3.272 | 1.065 | 1.416 | 180 | 338 |
| 3 | K | 0.095 | 2.625 | 2.435 | 0.687 | 0.637 | 0.755 | 4.657 | 2.926 | 2.015 | 330 | 619 |
| | L | 0.080 | 2.625 | 2.465 | 0.687 | 0.645 | 0.640 | 4.772 | 2.479 | 2.065 | 278 | 521 |
| | M | 0.065 | 2.625 | 2.495 | 0.687 | 0.653 | 0.523 | 4.889 | 2.026 | 2.116 | 226 | 423 |
| 3-1/2 | K | 0.109 | 3.125 | 2.907 | 0.818 | 0.761 | 1.033 | 6.637 | 4.002 | 2.872 | 318 | 596 |
| | L | 0.090 | 3.125 | 2.945 | 0.818 | 0.771 | 0.858 | 6.812 | 3.325 | 2.947 | 263 | 492 |
| | M | 0.072 | 3.125 | 2.981 | 0.818 | 0.780 | 0.691 | 6.979 | 2.676 | 3.020 | 210 | 394 |
| 4 | DWV | 0.045 | 3.125 | 3.035 | 0.818 | 0.795 | 0.435 | 7.234 | 1.687 | 3.130 | 131 | 246 |
| | K | 0.120 | 3.625 | 3.385 | 0.949 | 0.886 | 1.321 | 8.999 | 5.120 | 3.894 | 302 | 566 |
| | L | 0.100 | 3.625 | 3.425 | 0.949 | 0.897 | 1.107 | 9.213 | 4.291 | 3.987 | 252 | 472 |
| 5 | M | 0.083 | 3.625 | 3.459 | 0.949 | 0.906 | 0.924 | 9.397 | 3.579 | 4.066 | 209 | 392 |
| | K | 0.134 | 4.125 | 3.857 | 1.080 | 1.010 | 1.680 | 11.684 | 6.510 | 5.056 | 296 | 555 |
| | L | 0.110 | 4.125 | 3.905 | 1.080 | 1.022 | 1.387 | 11.977 | 5.377 | 5.182 | 243 | 456 |
| 6 | M | 0.095 | 4.125 | 3.935 | 1.080 | 1.030 | 1.203 | 12.161 | 4.661 | 5.262 | 210 | 394 |
| | DWV | 0.058 | 4.125 | 4.009 | 1.080 | 1.050 | 0.741 | 12.623 | 2.872 | 5.462 | 128 | 240 |
| | K | 0.160 | 5.125 | 4.805 | 1.342 | 1.258 | 2.496 | 18.133 | 9.671 | 7.846 | 285 | 534 |
| 7 | L | 0.125 | 5.125 | 4.875 | 1.342 | 1.276 | 1.963 | 18.665 | 7.609 | 8.077 | 222 | 417 |
| | M | 0.109 | 5.125 | 4.907 | 1.342 | 1.285 | 1.718 | 18.911 | 6.656 | 8.183 | 194 | 364 |
| | DWV | 0.072 | 5.125 | 4.981 | 1.342 | 1.304 | 1.143 | 19.486 | 4.429 | 8.432 | 128 | 240 |
| 8 | K | 0.192 | 6.125 | 5.741 | 1.603 | 1.503 | 3.579 | 25.886 | 13.867 | 11.201 | 286 | 536 |
| | L | 0.140 | 6.125 | 5.845 | 1.603 | 1.530 | 2.632 | 26.832 | 10.200 | 11.610 | 208 | 391 |
| | M | 0.122 | 6.125 | 5.881 | 1.603 | 1.540 | 2.301 | 27.164 | 8.916 | 11.754 | 182 | 341 |
| 9 | DWV | 0.083 | 6.125 | 5.959 | 1.603 | 1.560 | 1.575 | 27.889 | 6.105 | 12.068 | 124 | 232 |
| | K | 0.271 | 8.125 | 7.583 | 2.127 | 1.985 | 6.687 | 45.162 | 25.911 | 19.542 | 304 | 570 |
| | L | 0.200 | 8.125 | 7.725 | 2.127 | 2.022 | 4.979 | 46.869 | 19.295 | 20.280 | 224 | 421 |
| 10 | M | 0.170 | 8.125 | 7.785 | 2.127 | 2.038 | 4.249 | 47.600 | 16.463 | 20.597 | 191 | 358 |
| | DWV | 0.109 | 8.125 | 7.907 | 2.127 | 2.070 | 2.745 | 49.104 | 10.637 | 21.247 | 122 | 229 |
| | K | 0.338 | 10.125 | 9.449 | 2.651 | 2.474 | 10.392 | 70.123 | 40.271 | 30.342 | 304 | 571 |
| 11 | L | 0.250 | 10.125 | 9.625 | 2.651 | 2.520 | 7.756 | 72.760 | 30.054 | 31.483 | 225 | 422 |
| | M | 0.212 | 10.125 | 9.701 | 2.651 | 2.540 | 6.602 | 73.913 | 25.584 | 31.982 | 191 | 358 |
| | K | 0.405 | 12.125 | 11.315 | 3.174 | 2.962 | 14.912 | 100.554 | 57.784 | 43.510 | 305 | 571 |
| 12 | L | 0.280 | 12.125 | 11.565 | 3.174 | 3.028 | 10.419 | 105.046 | 40.375 | 45.454 | 211 | 395 |
| | M | 0.254 | 12.125 | 11.617 | 3.174 | 3.041 | 9.473 | 105.993 | 36.706 | 45.863 | 191 | 358 |

^aWhen using soldered or brazed fittings, the joint determines the limiting pressure. ^bIf soldered or brazed fittings are used on hard drawn tubing, use the annealed ratings. ^cWorking pressures were calculated using ASME Standard B31.9 allowable stresses. A Full-tube allowable pressures can be used with suitably rated flare or compression-type fittings. 5% mill tolerance has been used on the wall thickness. Higher tube ratings can be calculated using the allowable stress for lower temperatures.

Page 82: The heading “Plumbing and Water Heating” should be changed to “Plumbing and Solar Heating.”

Page 211: Add the section title “OWNING AND OPERATING” at the top of the page.

Page 212: Change the heading “Owning and Operating” to “Owning and Operating Cost Data.”

Page 257: The conversion for grams to ounces should be changed from “1 gram = 0.3527 ounce (avdp)” to “1 gram = **0.03527** ounce (avdp).”