

TABLE 2. EXTRA STRONG WROUGHT PIPE  
Table of Standard Dimensions

| SIZE<br>INCHES | DIAMETERS          |                                   | NOMINAL<br>THICKNESS<br>INCHES | CIRCUMFERENCE      |                    | TRANSVERSE AREA     |                     |                  | LENGTH OF PIPE<br>PER SQUARE FOOT OF |                     | LENGTH<br>OF PIPE<br>CONTAINING<br>ONE CUBIC FOOT<br>FEET | NOMINAL<br>WEIGHT<br>PER FOOT<br>PLAIN ENDS<br>POUNDS |
|----------------|--------------------|-----------------------------------|--------------------------------|--------------------|--------------------|---------------------|---------------------|------------------|--------------------------------------|---------------------|-----------------------------------------------------------|-------------------------------------------------------|
|                | External<br>Inches | Approximate<br>Internal<br>Inches |                                | External<br>Inches | Internal<br>Inches | External<br>Sq. In. | Internal<br>Sq. In. | Metal<br>Sq. In. | External<br>Surface                  | Internal<br>Surface |                                                           |                                                       |
| 1/8            | 0.405              | 0.215                             | 0.095                          | 1.272              | 0.675              | 0.129               | 0.036               | 0.093            | 9.431                                | 17.766              | 3966.392                                                  | 0.314                                                 |
| 1/4            | 0.540              | 0.302                             | 0.119                          | 1.696              | 0.949              | 0.229               | 0.072               | 0.157            | 7.073                                | 12.648              | 2010.290                                                  | 0.535                                                 |
| 3/8            | 0.675              | 0.423                             | 0.126                          | 2.121              | 1.329              | 0.358               | 0.141               | 0.217            | 5.658                                | 9.030               | 1024.689                                                  | 0.738                                                 |
| 1/2            | 0.840              | 0.546                             | 0.147                          | 2.639              | 1.715              | 0.554               | 0.234               | 0.320            | 4.547                                | 6.995               | 615.017                                                   | 1.087                                                 |
| 5/8            | 1.050              | 0.742                             | 0.154                          | 3.299              | 2.331              | 0.866               | 0.433               | 0.433            | 3.637                                | 5.147               | 333.016                                                   | 1.473                                                 |
| 1              | 1.315              | 0.957                             | 0.179                          | 4.131              | 3.007              | 1.358               | 0.719               | 0.639            | 2.904                                | 3.991               | 200.193                                                   | 2.171                                                 |
| 1 1/4          | 1.660              | 1.278                             | 0.191                          | 5.215              | 4.015              | 2.164               | 1.283               | 0.881            | 2.301                                | 2.988               | 112.256                                                   | 2.996                                                 |
| 1 1/2          | 1.900              | 1.500                             | 0.200                          | 5.969              | 4.712              | 2.835               | 1.767               | 1.068            | 2.010                                | 2.546               | 81.487                                                    | 3.631                                                 |
| 2              | 2.375              | 1.939                             | 0.218                          | 7.461              | 6.092              | 4.430               | 2.953               | 1.477            | 1.608                                | 1.969               | 48.766                                                    | 5.022                                                 |
| 2 1/2          | 2.875              | 2.323                             | 0.276                          | 9.032              | 7.298              | 6.492               | 4.238               | 2.254            | 1.328                                | 1.644               | 33.976                                                    | 7.661                                                 |
| 3              | 3.500              | 2.900                             | 0.300                          | 10.996             | 9.111              | 9.621               | 6.605               | 3.016            | 1.091                                | 1.317               | 21.801                                                    | 10.252                                                |
| 3 1/2          | 4.000              | 3.364                             | 0.318                          | 12.566             | 10.568             | 12.566              | 8.888               | 3.678            | 0.954                                | 1.135               | 16.202                                                    | 12.505                                                |
| 4              | 4.500              | 3.826                             | 0.337                          | 14.137             | 12.020             | 15.904              | 11.497              | 4.407            | 0.848                                | 0.998               | 12.525                                                    | 14.983                                                |
| 5              | 5.563              | 4.813                             | 0.375                          | 17.477             | 15.120             | 24.306              | 18.194              | 6.112            | 0.686                                | 0.793               | 7.915                                                     | 20.778                                                |
| 6              | 6.625              | 5.761                             | 0.432                          | 20.813             | 18.099             | 34.472              | 26.067              | 8.405            | 0.576                                | 0.663               | 5.524                                                     | 28.573                                                |
| 8              | 8.625              | 7.625                             | 0.500                          | 27.096             | 23.955             | 58.426              | 45.663              | 12.763           | 0.442                                | 0.500               | 3.154                                                     | 43.384                                                |
| 10             | 10.750             | 9.750                             | 0.500                          | 33.772             | 30.631             | 90.763              | 74.662              | 16.101           | 0.355                                | 0.391               | 1.929                                                     | 54.735                                                |
| 12             | 12.750             | 11.750                            | 0.500                          | 40.055             | 36.914             | 127.676             | 108.434             | 19.242           | 0.299                                | 0.325               | 1.328                                                     | 65.415                                                |

- (3) a combination of straight pieces with such curved pieces or cast ells;  
 (4) a so-called *square bend* made up entirely of straight pieces, cast ells, etc.

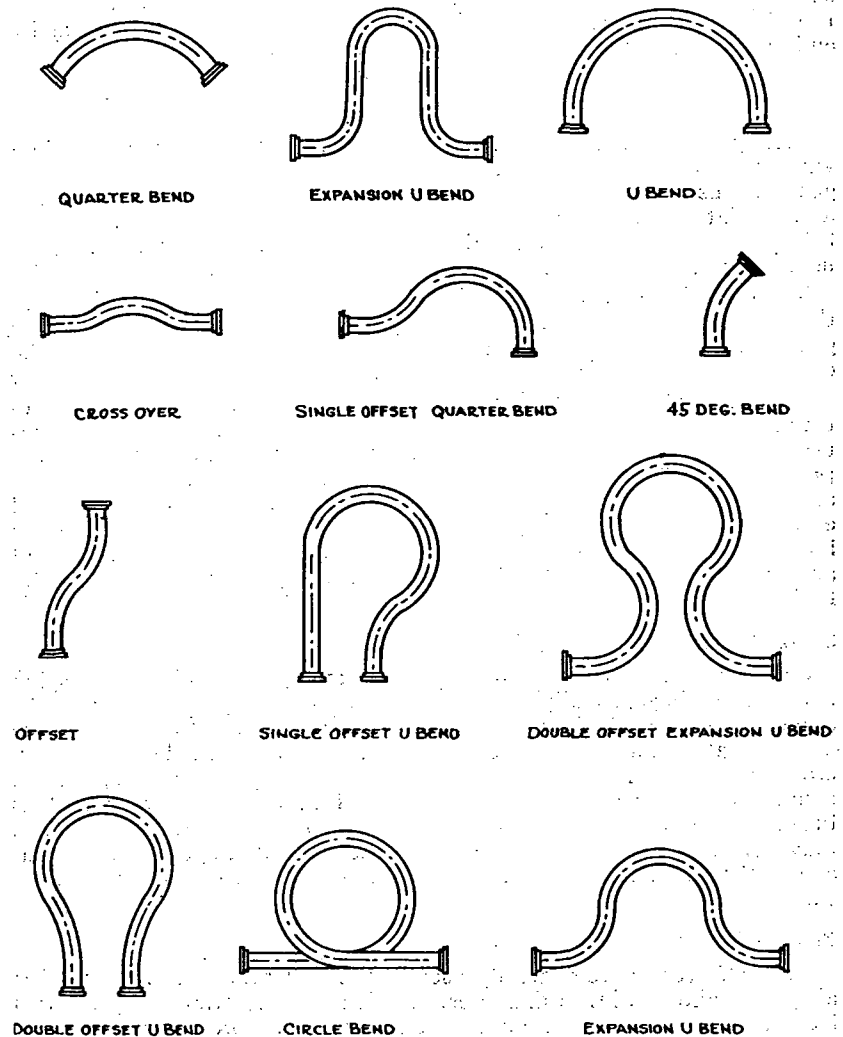


FIG. 1. COMMON TYPES OF PIPE BENDS

In designing any system of steam or hot water piping the expansion for each straight run should be calculated and allowed for.

All risers must be anchored and safeguarded so that the difference in length when hot from the length when cold shall not disarrange the normal and orderly provisions for drainage of the branches.