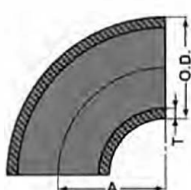
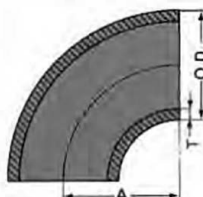


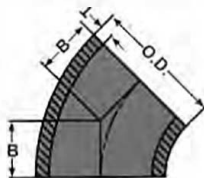
**90° ELBOW  
LONG RADIUS**



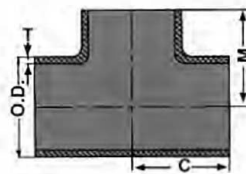
**90° ELBOW  
SHORT RADIUS**



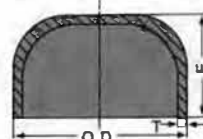
**45° ELBOW  
LONG RADIUS**



**TEE**



**CAP**



DIMENSION ANSI B16.9 (S/R ANSI B16.28)

UNIT: INCH/mm

| NOMINAL<br>PIPE SIZE | OUTSIDE<br>DIAMETER | WALL THICKNESS<br>SCHEDULE |       |       |       | ELBOW |       |      | TEE   | CAP  | NOMINAL<br>PIPE SIZE |
|----------------------|---------------------|----------------------------|-------|-------|-------|-------|-------|------|-------|------|----------------------|
|                      |                     |                            |       |       |       | 90°   |       | 45°  |       |      |                      |
|                      |                     | T                          |       |       |       | L/R   | S/R   | L/R  |       |      |                      |
| INCH                 | O.D.                | 5S                         | 10S   | 40S   | 80S   | A     | A     | B    | C, M  | E    | INCH                 |
| 1/2                  | 0.840               | 0.065                      | 0.083 | 0.109 | 0.147 | 1.50  | —     | 0.62 | 1.00  | 1.00 | 1/2                  |
|                      | 21.30               | 1.65                       | 2.11  | 2.77  | 3.73  | 38.1  | —     | 16   | 25.4  | 25.4 |                      |
| 3/4                  | 1.050               | 0.065                      | 0.083 | 0.113 | 0.154 | 1.12  | —     | 0.75 | 1.125 | 1.00 | 3/4                  |
|                      | 26.70               | 1.65                       | 2.11  | 2.87  | 3.91  | 28.5  | —     | 11   | 28.6  | 25.4 |                      |
| 1                    | 1.315               | 0.065                      | 0.109 | 0.133 | 0.179 | 1.50  | 1.00  | 0.88 | 1.50  | 1.50 | 1                    |
|                      | 33.40               | 1.65                       | 2.77  | 3.38  | 4.55  | 38.1  | 25.4  | 22   | 38.1  | 38.0 |                      |
| 1 1/4                | 1.660               | 0.065                      | 0.109 | 0.140 | 0.191 | 1.88  | 1.25  | 1.00 | 1.88  | 1.50 | 1 1/4                |
|                      | 42.2                | 1.65                       | 2.77  | 3.56  | 4.85  | 47.5  | 32    | 25   | 47.6  | 38   |                      |
| 1 1/2                | 1.90                | 0.065                      | 0.109 | 0.145 | 0.200 | 2.25  | 1.50  | 1.12 | 2.25  | 1.50 | 1 1/2                |
|                      | 48.3                | 1.65                       | 2.77  | 3.68  | 5.08  | 57.0  | 38    | 29   | 57.2  | 38   |                      |
| 2                    | 2.375               | 0.065                      | 0.109 | 0.154 | 0.218 | 3.00  | 2.00  | 1.38 | 2.50  | 1.50 | 2                    |
|                      | 60.3                | 1.65                       | 2.77  | 3.91  | 5.54  | 76.0  | 51    | 35   | 63.5  | 38   |                      |
| 2 1/2                | 2.875               | 0.083                      | 0.120 | 0.203 | 0.276 | 3.75  | 2.50  | 1.75 | 3.00  | 1.50 | 2 1/2                |
|                      | 73.0                | 2.11                       | 3.05  | 5.16  | 7.01  | 95.0  | 63.5  | 45   | 76.2  | 38   |                      |
| 3                    | 3.50                | 0.083                      | 0.120 | 0.216 | 0.300 | 4.50  | 3.00  | 2.00 | 3.38  | 2.00 | 3                    |
|                      | 88.9                | 2.11                       | 3.05  | 5.49  | 7.62  | 114.5 | 76    | 51   | 85.7  | 51   |                      |
| 3 1/2                | 4.00                | 0.083                      | 0.120 | 0.226 | 0.318 | 5.25  | 3.50  | 2.25 | 3.75  | 2.50 | 3 1/2                |
|                      | 101.6               | 2.11                       | 3.05  | 5.74  | 8.08  | 133.5 | 89    | 57   | 95.3  | 64   |                      |
| 4                    | 4.50                | 0.083                      | 0.120 | 0.237 | 0.337 | 6.00  | 4.00  | 2.50 | 4.12  | 2.50 | 4                    |
|                      | 114.3               | 2.11                       | 3.05  | 6.02  | 8.56  | 152.5 | 101.5 | 64   | 104.8 | 64   |                      |
| 5                    | 5.563               | 0.109                      | 0.134 | 0.258 | 0.375 | 7.50  | 5.00  | 3.12 | 4.88  | 3.00 | 5                    |
|                      | 141.3               | 2.77                       | 3.40  | 6.55  | 9.52  | 190.5 | 127   | 79   | 123.8 | 76   |                      |
| 6                    | 6.625               | 0.109                      | 0.134 | 0.280 | 0.432 | 9.00  | 6.00  | 3.75 | 5.62  | 3.50 | 6                    |
|                      | 168.3               | 2.77                       | 3.40  | 7.11  | 10.97 | 228.5 | 152.5 | 95   | 142.9 | 89   |                      |
| 8                    | 8.625               | 0.109                      | 0.148 | 0.322 | 0.50  | 12.00 | 8.00  | 5.00 | 7.00  | 4.00 | 8                    |
|                      | 219.1               | 2.77                       | 3.76  | 8.18  | 12.70 | 305   | 203   | 127  | 177.8 | 102  |                      |
| 10                   | 10.75               | 0.134                      | 0.165 | 0.365 | 0.500 | 15.00 | 10.00 | 6.25 | 8.50  | 5.00 | 10                   |
|                      | 273                 | 3.40                       | 4.19  | 9.27  | 12.70 | 381   | 254   | 159  | 215.9 | 127  |                      |
| 12                   | 12.75               | 0.156                      | 0.180 | 0.375 | 0.500 | 18.00 | 12.00 | 7.50 | 10.00 | 6.00 | 12                   |
|                      | 323.9               | 3.96                       | 4.57  | 9.52  | 12.70 | 457   | 305   | 191  | 254   | 152  |                      |