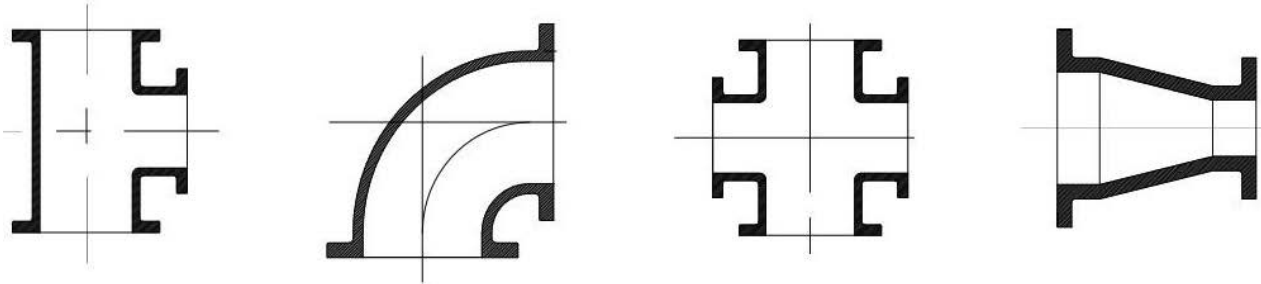


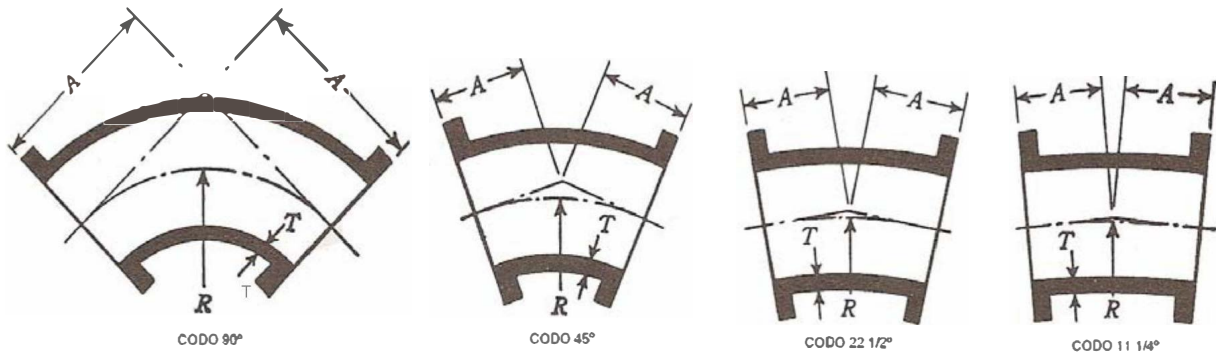
# ESPECIFICACIONES TÉCNICAS

## CONEXIONES BRIDADAS



|   |   |
|---|---|
| <b>MATERIALES:</b>                        | Hierro Gris ASTM A48, Grado 25B (2" - 12") / Grado 30B (14" - 54") Hierro Dúctil ASTM A536, Grado 65-45-12.   |
| <b>RANGOS DE PRESIÓN:</b>                 | 250 PSI presión de trabajo, en Hierro Gris diámetros de 2" - 12"<br>150 PSI presión de trabajo, en Hierro Gris diámetros de 14" - 54"<br>250 PSI presión de trabajo, en Hierro Dúctil diámetros de 2" - 54" |
| <b>PRUEBAS:</b>                           | Estricto apego a la norma AVWWA/ANSI C110/A21.10  |
| <b>DIMENSIONES:</b>                       | Estricto apego a la norma AVWWA/ANSI C110/A21.10  |
| <b>REVESTIMIENTO DE CEMENTO:</b>          | Estricto apego a la norma AVWWA/ANSI C104/A214.   |
| <b>RECUBRIMIENTO EXTERIOR E INTERIOR:</b> | Pintura (bituminosa) de acuerdo a la norma AVWWA/ANSI C104/A214. NSF-61   |
| <b>CERTIFICADOS:</b>                      | Underwriters Laboratories (UL) de 2" - 16"  |
| <b>ESTÁNDARES:</b>                        | AVWWA/ANSI C110/A21.10  |

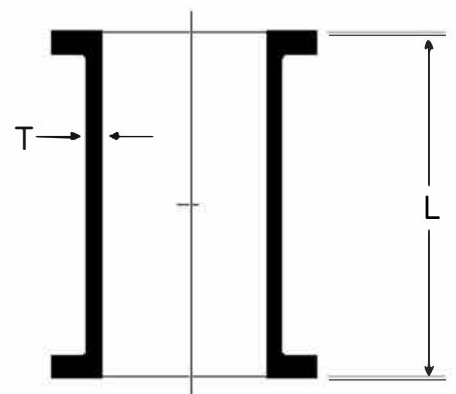
## CODOS



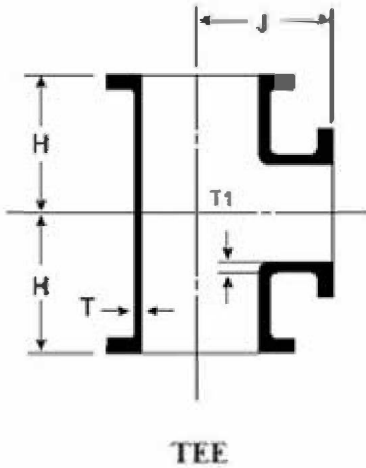
| Diámetro Nominal | Dimensiones Generales |       |              |       |                  |       |                  |        |         | Peso en Kilogramos |      |         |         |
|------------------|-----------------------|-------|--------------|-------|------------------|-------|------------------|--------|---------|--------------------|------|---------|---------|
|                  | Codos de 90°          |       | Codos de 45° |       | Codos de 22 1/2° |       | Codos de 11 1/4° |        | Espesor | 90°                | 45°  | 22 1/2° | 11 1/4° |
|                  | Pulgadas              |       |              |       |                  |       |                  |        |         |                    |      |         |         |
| Pulgadas         | A                     | R     | A            | R     | A                | R     | A                | R      | T       |                    |      |         |         |
| 2                | 4.50                  | 3.00  | 2.50         | 2.41  | 2.50             | 6.04  | 2.50             | 12.69  | 0.35    | 6                  | 5    | 5       | 5       |
| 2 1/2            | 5.00                  | 3.50  | 3.00         | 3.02  | 3.00             | 6.80  | 2.75             | 13.97  | 0.35    | 9                  | 7    | 7       | 7       |
| 3                | 5.50                  | 4.00  | 3.00         | 3.62  | 3.00             | 7.56  | 3.00             | 15.25  | 0.48    | 11                 | 9    | 9       | 9       |
| 4                | 6.50                  | 4.50  | 4.00         | 4.81  | 4.00             | 10.06 | 4.00             | 20.31  | 0.52    | 20                 | 18   | 18      | 18      |
| 6                | 8.00                  | 6.00  | 5.00         | 7.25  | 5.00             | 15.06 | 5.00             | 30.50  | 0.55    | 29                 | 25   | 25      | 25      |
| 8                | 9.00                  | 7.00  | 5.50         | 8.44  | 5.50             | 17.62 | 5.50             | 35.50  | 0.60    | 48                 | 41   | 41      | 41      |
| 10               | 11.00                 | 9.00  | 6.50         | 10.88 | 6.50             | 22.62 | 6.50             | 45.69  | 0.68    | 75                 | 59   | 61      | 61      |
| 12               | 12.00                 | 10.00 | 7.50         | 13.25 | 7.50             | 27.62 | 7.50             | 55.81  | 0.75    | 106                | 88   | 93      | 93      |
| 14               | 14.00                 | 11.50 | 7.50         | 12.06 | 7.50             | 25.12 | 7.50             | 50.75  | 0.66    | 131                | 100  | 102     | 102     |
| 16               | 15.00                 | 12.50 | 8.00         | 13.25 | 8.00             | 27.62 | 8.00             | 55.81  | 0.70    | 168                | 127  | 129     | 129     |
| 18               | 16.05                 | 14.00 | 8.50         | 14.50 | 8.50             | 30.19 | 8.50             | 60.94  | 0.75    | 204                | 147  | 152     | 152     |
| 20               | 18.00                 | 15.50 | 9.50         | 16.88 | 9.50             | 35.19 | 9.50             | 71.06  | 0.80    | 263                | 195  | 197     | 197     |
| 24               | 22.00                 | 18.50 | 11.00        | 18.12 | 11.00            | 37.69 | 11.00            | 76.12  | 0.89    | 408                | 285  | 290     | 292     |
| 30               | 25.00                 | 21.50 | 15.00        | 22.75 | 15.00            | 57.81 | 15.00            | 116.75 | 1.03    | 648                | 508  | 515     | 522     |
| 36               | 28.00                 | 24.50 | 18.00        | 35.00 | 18.00            | 72.88 | 18.00            | 147.25 | 1.15    | 968                | 796  | 812     | 819     |
| 42               | 31.00                 | 27.50 | 21.00        | 42.25 | 21.00            | 88.00 | 21.00            | 177.69 | 1.28    | 1385               | 1179 | 1209    | 1215    |

## CARRETES

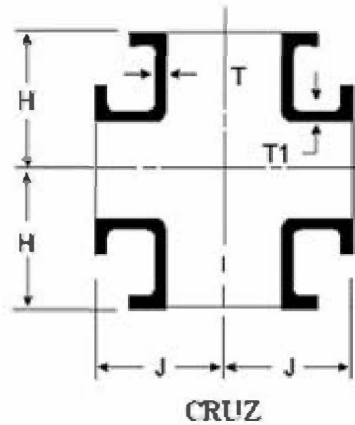
| Diámetro Nominal | Dimensiones Generales |                  |      | Peso Kilogramos |       |
|------------------|-----------------------|------------------|------|-----------------|-------|
|                  | L                     |                  | T    | Corto           | Largo |
| Pulgadas         | Corto Milímetros      | Largo Milímetros |      |                 |       |
| 2                | 250                   | 500              | 0.35 | 6               | 9     |
| 2 1/2            | 250                   | 500              | 0.35 | 8               | 12    |
| 3                | 250                   | 500              | 0.48 | 11              | 17    |
| 4                | 250                   | 500              | 0.52 | 17              | 26    |
| 6                | 250                   | 500              | 0.55 | 25              | 38    |
| 8                | 250                   | 500              | 0.60 | 38              | 57    |
| 10               | 250                   | 500              | 0.68 | 52              | 78    |
| 12               | 250                   | 500              | 0.75 | 73              | 108   |
| 14               | 250                   | 500              | 0.66 | 84              | 119   |
| 16               | 250                   | 500              | 0.70 | 104             | 146   |
| 18               | 250                   | 500              | 0.75 | 108             | 153   |
| 20               | 250                   | 500              | 0.80 | 141             | 203   |
| 24               | 250                   | 500              | 0.89 | 192             | 273   |
| 30               | 250                   | 500              | 1.03 | 282             | 398   |
| 36               | 400                   | 750              | 1.15 | 404             | 715   |



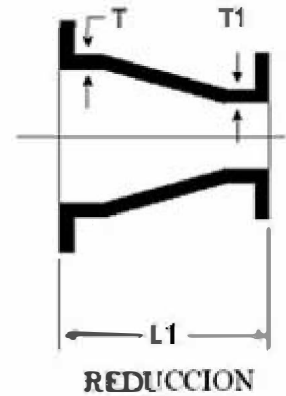
## TEE, CRUZ Y REDUCCIONES



TEE



CRUZ



REDUCCION

| Diámetro Nominal |            | Dimensiones Generales. |       |      |      |     | Peso        |      |            |
|------------------|------------|------------------------|-------|------|------|-----|-------------|------|------------|
|                  |            | Pulgadas.              |       |      |      |     | Kilogramos. |      |            |
| Pulgadas         | Milímetros | H                      | J     | T    | T1   | L1  | Tee         | Cruz | Reducción. |
| 2 X 2            | 51 X 51    | 4.50                   | 4.50  | 0.35 | 0.35 |     | 10          | 12   |            |
| 2 1/2 X 2        | 63 X 51    | 5.00                   | 5.00  | 0.35 | 0.35 | 5.6 | 12          | 13   | 6          |
| 2 1/2 x 2 1/2    | 63 x 63    | 5.00                   | 5.00  | 0.35 | 0.35 |     | 13          | 15   |            |
| 3 x 2            | 76 x 51    | 5.50                   | 5.50  | 0.48 | 0.35 | 6   | 16          | 20   | 7          |
| 3 x 2 1/2        | 76 x 63    | 5.50                   | 5.50  | 0.48 | 0.35 | 6   | 17          | 21   | 9          |
| 3 x 3            | 76 x 76    | 5.50                   | 5.50  | 0.48 | 0.48 |     | 18          | 23   |            |
| 4 x 2            | 102 x 51   | 6.50                   | 6.50  | 0.52 | 0.35 | 7   | 23          | 27   | 10         |
| 4 x 2 1/2        | 102 x 63   | 6.50                   | 6.50  | 0.52 | 0.35 | 7   | 25          | 29   | 13         |
| 4 x 3            | 102 X 76   | 6.50                   | 6.50  | 0.52 | 0.48 | 7   | 27          | 32   | 14         |
| 4 X 4            | 102 X 102  | 6.50                   | 6.50  | 0.52 | 0.52 |     | 29          | 36   |            |
| 6 X 2            | 152 X 51   | 8.00                   | 8.00  | 0.55 | 0.35 | 9   | 36          | 39   | 14         |
| 6 X 2 1/2        | 152 X 63   | 8.00                   | 8.00  | 0.55 | 0.35 | 9   | 37          | 41   | 17         |
| 6 X 3            | 152 X 76   | 8.00                   | 8.00  | 0.55 | 0.48 | 9   | 38          | 43   | 18         |
| 6 X 4            | 152 X 102  | 8.00                   | 8.00  | 0.55 | 0.52 | 9   | 41          | 50   | 20         |
| 6 X 6            | 152 X 152  | 8.00                   | 8.00  | 0.55 | 0.55 |     | 43          | 54   |            |
| 8 X 3            | 203 X 76   | 9.00                   | 9.00  | 0.60 | 0.48 | 11  | 60          | 65   | 27         |
| 8 X 4            | 203 X 102  | 9.00                   | 9.00  | 0.60 | 0.52 | 11  | 63          | 70   | 29         |
| 8 X 6            | 203 X 152  | 9.00                   | 9.00  | 0.60 | 0.55 | 11  | 66          | 75   | 34         |
| 8 X 8            | 203X 203   | 9.00                   | 9.00  | 0.60 | 0.60 |     | 70          | 88   |            |
| 10 X 3           | 254 X 76   | 11.00                  | 11.00 | 0.68 | 0.48 | 12  | 88          | 93   | 37         |
| 10 X 4           | 254 X 102  | 11.00                  | 11.00 | 0.68 | 0.52 | 12  | 93          | 100  | 38         |
| 10 X 6           | 254 X 152  | 11.00                  | 11.00 | 0.68 | 0.55 | 12  | 97          | 109  | 41         |
| 10 X 8           | 254 X 203  | 11.00                  | 11.00 | 0.68 | 0.60 | 12  | 102         | 120  | 50         |
| 10 X 10          | 254 X 254  | 11.00                  | 11.00 | 0.80 | 0.80 |     | 122         | 149  |            |
| 12 X 3           | 305 X 76   | 12.00                  | 12.00 | 0.75 | 0.48 | 14  | 139         | 136  | 53         |
| 12 X 4           | 305 X 102  | 12.00                  | 12.00 | 0.75 | 0.52 | 14  | 131         | 140  | 54         |
| 12 X 6           | 305 X 152  | 12.00                  | 12.00 | 0.75 | 0.55 | 14  | 134         | 145  | 59         |
| 12 X 8           | 305 X 203  | 12.00                  | 12.00 | 0.75 | 0.60 | 14  | 140         | 156  | 66         |
| 12 X 10          | 305 X 254  | 12.00                  | 12.00 | 0.87 | 0.80 | 14  | 163         | 188  | 77         |
| 12 X 12          | 305 X 305  | 12.00                  | 12.00 | 0.87 | 0.87 |     | 175         | 208  |            |

## TEE, CRUZ Y REDUCCIONES

| Diámetro Nominal |             | Dimensiones Generales. |       |      |      |    | Peso        |      |            |
|------------------|-------------|------------------------|-------|------|------|----|-------------|------|------------|
| Pulgadas         | Milímetros  | Pulgadas.              |       |      |      |    | Kilogramos. |      |            |
|                  |             | H                      | J     | T    | T1   | L1 | Tee         | Cruz | Reducción. |
| 14 x 4           | 356 x 102   | 14.00                  | 14.00 | 0.66 | 0.52 | 16 | 166         | 176  | 68         |
| 14 X 6           | 356 X 152   | 14.00                  | 14.00 | 0.66 | 0.55 | 16 | 170         | 181  | 70         |
| 14 X 8           | 356 X 203   | 14.00                  | 14.00 | 0.66 | 0.60 | 16 | 177         | 193  | 79         |
| 14 X 10          | 356 X 254   | 14.00                  | 14.00 | 0.66 | 0.68 | 16 | 181         | 208  | 86         |
| 14 X 12          | 356 X 305   | 14.00                  | 14.00 | 0.82 | 0.75 | 16 | 212         | 251  | 100        |
| 14 X 14          | 356 X 356   | 14.00                  | 14.00 | 0.82 | 0.82 |    | 226         | 270  |            |
| 16 x 4           | 406 x 102   | 15.00                  | 15.00 | 0.75 | 0.52 | 18 | 208         | 216  | 85         |
| 16 X 6           | 406 X 152   | 15.00                  | 15.00 | 0.75 | 0.55 | 18 | 211         | 222  | 86         |
| 16 X 8           | 406 X 203   | 15.00                  | 15.00 | 0.75 | 0.60 | 18 | 216         | 236  | 95         |
| 16 X 10          | 406 X 254   | 15.00                  | 15.00 | 0.75 | 0.68 | 18 | 224         | 251  | 107        |
| 16 X 12          | 406 X 305   | 15.00                  | 15.00 | 0.75 | 0.75 | 18 | 236         | 274  | 120        |
| 16 X 14          | 406 X 356   | 15.00                  | 15.00 | 0.96 | 0.82 | 18 | 276         | 317  | 127        |
| 16 X 16          | 406 X 406   | 15.00                  | 15.00 | 0.96 | 0.89 |    | 288         | 342  |            |
| 18 x 6           | 457 x 152   | 13.00                  | 15.50 | 0.75 | 0.55 | 19 | 218         | 229  | 108        |
| 18 X 8           | 457 X 203   | 13.00                  | 15.50 | 0.75 | 0.60 | 19 | 224         | 242  | 109        |
| 18 X 10          | 457 X 254   | 13.00                  | 15.50 | 0.75 | 0.68 | 19 | 231         | 254  | 120        |
| 18 X 12          | 457 X 305   | 13.00                  | 15.50 | 0.75 | 0.75 | 19 | 242         | 276  | 134        |
| 18 X 14          | 457 X 356   | 16.50                  | 16.50 | 0.75 | 0.66 | 19 | 285         | 326  | 141        |
| 18 X 16          | 457 X 406   | 16.50                  | 16.50 | 0.96 | 0.89 | 19 | 344         | 399  | 154        |
| 18 X 18          | 457 X 457   | 16.50                  | 16.50 | 0.96 | 0.96 |    | 356         | 414  |            |
| 20 X 6           | 508 X 152   | 14.00                  | 17.00 | 0.80 | 0.55 | 20 | 277         | 288  |            |
| 20 X 8           | 508 X 203   | 14.00                  | 17.00 | 0.80 | 0.60 | 20 | 281         | 302  | 138        |
| 20 X 10          | 508 X 254   | 14.00                  | 17.00 | 0.80 | 0.68 | 20 | 288         | 311  | 141        |
| 20 X 12          | 508 X 305   | 14.00                  | 17.00 | 0.80 | 0.75 | 20 | 299         | 333  | 156        |
| 20 X 14          | 508 X 356   | 14.00                  | 17.00 | 0.80 | 0.66 | 20 | 302         | 338  | 161        |
| 20 X 16          | 508 X 406   | 18.00                  | 18.00 | 0.80 | 0.70 | 20 | 367         | 415  | 177        |
| 20 X 18          | 508 X 457   | 18.00                  | 18.00 | 1.03 | 0.96 | 20 | 438         | 499  | 186        |
| 20 X 20          | 508 X 508   | 18.00                  | 18.00 | 1.03 | 1.03 |    | 456         | 533  |            |
| 24 X 6           | 610 X 152   | 15.00                  | 19.00 | 0.89 | 0.55 | 24 | 383         | 397  |            |
| 24 X 8           | 610 X 203   | 15.00                  | 19.00 | 0.89 | 0.60 | 24 | 390         | 406  | 209        |
| 24 X 10          | 610 X 254   | 15.00                  | 19.00 | 0.89 | 0.68 | 24 | 399         | 422  | 213        |
| 24 X 12          | 610 X 305   | 15.00                  | 19.00 | 0.89 | 0.75 | 24 | 404         | 435  | 218        |
| 24 X 14          | 610 X 356   | 15.00                  | 19.00 | 0.89 | 0.66 | 24 | 408         | 442  | 222        |
| 24 X 16          | 610 X 406   | 15.00                  | 19.00 | 0.89 | 0.70 | 24 | 415         | 458  | 238        |
| 24 X 18          | 610 X 457   | 22.00                  | 22.00 | 0.89 | 0.75 | 24 | 553         | 619  | 249        |
| 24 X 20          | 610 X 508   | 22.00                  | 22.00 | 1.16 | 1.03 | 24 | 685         | 769  | 268        |
| 24 X 24          | 610 X 610   | 22.00                  | 22.00 | 1.16 | 1.16 |    | 719         | 839  |            |
| 30 x 6           | 762 x 152   | 18.00                  | 23.00 | 1.03 | 0.55 |    | 665         |      |            |
| 30 x 8           | 762 x 203   | 18.00                  | 23.00 | 1.03 | 0.60 |    | 667         |      |            |
| 30 x 10          | 762 x 254   | 18.00                  | 23.00 | 1.03 | 0.68 | 30 | 672         | 690  |            |
| 30 X 12          | 762 X 305   | 18.00                  | 23.00 | 1.03 | 0.75 | 30 | 676         | 710  | 349        |
| 30 X 14          | 762 X 356   | 18.00                  | 23.00 | 1.03 | 0.66 | 30 | 676         | 712  | 355        |
| 30 X 16          | 762 X 406   | 18.00                  | 23.00 | 1.03 | 0.70 | 30 | 683         | 728  | 361        |
| 30 X 18          | 762 X 457   | 18.00                  | 23.00 | 1.03 | 0.75 | 30 | 687         | 733  | 367        |
| 30 X 20          | 762 X 508   | 18.00                  | 23.00 | 1.03 | 0.80 | 30 | 699         | 758  | 395        |
| 30 X 24          | 762 X 610   | 25.00                  | 25.00 | 1.37 | 1.16 | 30 | 1123        | 1222 | 440        |
| 30 X 30          | 762 X 762   | 25.00                  | 25.00 | 1.37 | 1.37 |    | 1186        | 1352 |            |
| 36 X 12          | 914 X 305   | 20.00                  | 26.00 | 1.15 | 0.75 | 36 | 984         | 1016 | 518        |
| 36 X 14          | 914 X 356   | 20.00                  | 26.00 | 1.15 | 0.66 | 36 | 987         | 1016 | 524        |
| 36 X 16          | 914 X 406   | 20.00                  | 26.00 | 1.15 | 0.70 | 36 | 991         | 1030 | 535        |
| 36 X 18          | 914 X 457   | 20.00                  | 26.00 | 1.15 | 0.75 | 36 | 993         | 1034 | 546        |
| 36 X 20          | 914 X 508   | 20.00                  | 26.00 | 1.15 | 0.80 | 36 | 1002        | 1055 | 558        |
| 36 X 24          | 914 X 610   | 20.00                  | 26.00 | 1.15 | 0.89 | 36 | 1023        | 1091 | 610        |
| 36 X 30          | 914 X 762   | 28.00                  | 28.00 | 1.58 | 1.37 | 36 | 1699        | 1826 | 705        |
| 36 X 36          | 914 X 914   | 28.00                  | 28.00 | 1.58 | 1.58 |    | 1783        | 1998 |            |
| 42 X 12          | 1067 X 305  | 23.00                  | 30.00 | 1.28 | 0.75 |    | 1436        | 1470 |            |
| 42 X 14          | 1067 X 356  | 23.00                  | 30.00 | 1.28 | 0.66 |    | 1438        | 1470 |            |
| 42 X 16          | 1067 X 406  | 23.00                  | 30.00 | 1.28 | 0.70 |    | 1442        | 1483 |            |
| 42 X 18          | 1067 X 457  | 23.00                  | 30.00 | 1.28 | 0.75 |    | 1445        | 1486 |            |
| 42 X 20          | 1067 X 508  | 23.00                  | 30.00 | 1.28 | 0.80 |    | 1454        | 1506 |            |
| 42 X 24          | 1067 X 610  | 23.00                  | 30.00 | 1.78 | 1.16 | 42 | 1823        | 1876 | 826        |
| 42 X 30          | 1067 X 762  | 31.00                  | 31.00 | 1.78 | 1.37 | 42 | 2370        | 2470 | 934        |
| 42 X 36          | 1067 X 914  | 31.00                  | 31.00 | 1.28 | 1.15 | 42 | 2433        | 2599 | 1064       |
| 42 X 42          | 1067 X 1067 | 31.00                  | 31.00 | 1.28 | 1.28 |    | 2533        | 2794 |            |