

# FITTINGS

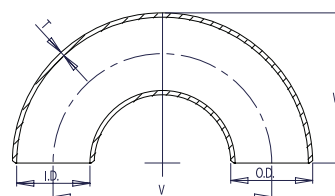
NPS ½ through 60

- Schedule **Standard (STD)**
- Schedule **Extra-Strong (XS)**
- Schedule **40**
- Schedule **80**
- Schedule **160**
- Schedule **Double Extra-Strong (XXS)**



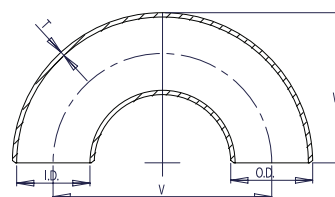
**All Products Backed by the Hisea Marine Warranty**

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 15.76           | 2.77           | 76               | 48           | 40                   | 0.15                        |
| 3/4       | 26.7             | 20.96           | 2.87           | 76               | 51           | 40                   | 0.15                        |
| 1         | 33.4             | 26.64           | 3.38           | 76               | 56           | 40                   | 0.34                        |
| 1 1/4     | 42.2             | 35.08           | 3.56           | 95               | 70           | 40                   | 0.50                        |
| 1 1/2     | 48.3             | 40.94           | 3.68           | 114              | 83           | 40                   | 0.73                        |
| 2         | 60.3             | 52.48           | 3.91           | 152              | 106          | 40                   | 1.45                        |
| 2 1/2     | 73.0             | 62.68           | 5.16           | 190              | 132          | 40                   | 2.77                        |
| 3         | 88.9             | 77.92           | 5.49           | 229              | 159          | 40                   | 4.26                        |
| 3 1/2     | 101.6            | 90.12           | 5.74           | 267              | 184          | 40                   | 5.81                        |
| 4         | 114.3            | 102.26          | 6.02           | 305              | 210          | 40                   | 7.94                        |
| 5         | 141.3            | 128.20          | 6.55           | 381              | 262          | 40                   | 13.29                       |
| 6         | 168.3            | 154.08          | 7.11           | 457              | 313          | 40                   | 21.32                       |
| 8         | 219.1            | 202.74          | 8.18           | 610              | 414          | 40                   | 39.46                       |
| 10        | 273.0            | 254.46          | 9.27           | 762              | 518          | 40                   | 74.39                       |
| 12        | 323.8            | 304.74          | 9.53           | 914              | 619          | *                    | 107.50                      |
| 14        | 355.6            | 336.54          | 9.53           | 1067             | 711          | 30                   | 141.07                      |
| 16        | 406.4            | 387.34          | 9.53           | 1219             | 813          | 30                   | 185.06                      |
| 18        | 457.0            | 437.94          | 9.53           | 1372             | 914          | *                    | 233.15                      |
| 20        | 508.0            | 488.94          | 9.53           | 1524             | 1016         | 20                   | 288.48                      |
| 24        | 610.0            | 590.94          | 9.53           | 1829             | 1219         | 20                   | 411.86                      |

**LONG RADIUS  
SCHEDULE STD**

**NOTES**

1. Conforms to ASME B16.9 & ASTM A234 WPB.
  2. All dimensions are in millimeters.
  3. For sizes larger than NPS 24 please call.
  4. All weights are in kilograms and approximated or estimated.
- \* This size and thickness does not correspond to any pipe schedule number.

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 13.84           | 3.73           | 76               | 48           | 80                   | 0.20                        |
| 3/4       | 26.7             | 18.88           | 3.91           | 76               | 51           | 80                   | 0.24                        |
| 1         | 33.4             | 24.30           | 4.55           | 76               | 56           | 80                   | 0.44                        |
| 1 1/4     | 42.2             | 32.50           | 4.85           | 95               | 70           | 80                   | 0.73                        |
| 1 1/2     | 48.3             | 38.14           | 5.08           | 114              | 83           | 80                   | 1.00                        |
| 2         | 60.3             | 49.22           | 5.54           | 152              | 106          | 80                   | 1.86                        |
| 2 1/2     | 73.0             | 58.98           | 7.01           | 190              | 132          | 80                   | 3.49                        |
| 3         | 88.9             | 73.66           | 7.62           | 229              | 159          | 80                   | 5.62                        |
| 3 1/2     | 101.6            | 85.44           | 8.08           | 267              | 184          | 80                   | 7.76                        |
| 4         | 114.3            | 97.18           | 8.56           | 305              | 210          | 80                   | 10.93                       |
| 5         | 141.3            | 122.24          | 9.53           | 381              | 262          | 80                   | 18.91                       |
| 6         | 168.3            | 146.36          | 10.97          | 457              | 313          | 80                   | 30.93                       |
| 8         | 219.1            | 193.70          | 12.70          | 610              | 414          | 60                   | 63.50                       |
| 10        | 273.0            | 247.60          | 12.70          | 762              | 518          | *                    | 98.43                       |
| 12        | 323.8            | 298.40          | 12.70          | 914              | 619          | *                    | 141.07                      |
| 14        | 355.6            | 330.20          | 12.70          | 1067             | 711          | 40                   | 181.44                      |
| 16        | 406.4            | 381.00          | 12.70          | 1219             | 813          | *                    | 244.94                      |
| 18        | 457.0            | 431.60          | 12.70          | 1372             | 914          | 30                   | 311.16                      |
| 20        | 508.0            | 482.60          | 12.70          | 1524             | 1016         | *                    | 381.02                      |
| 24        | 610.0            | 584.60          | 12.70          | 1829             | 1219         | *                    | 548.84                      |

**LONG RADIUS  
SCHEDULE XS**

**NOTES**

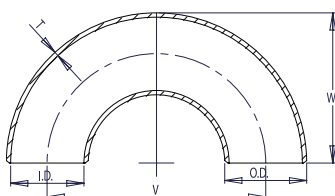
1. Conforms to ASME B16.9 & ASTM A234 WPB.
  2. All dimensions are in millimeters.
  3. For sizes larger than NPS 24 please call.
  4. All weights are in kilograms and approximated or estimated.
- \* This size and thickness does not correspond to any pipe schedule number.

# 180° RETURN BENDS



**HI-SEA MARINE**

## LONG RADIUS SCHEDULE 40

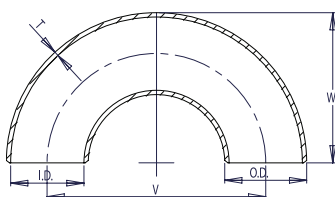


### NOTES

1. Conforms to ASME B16.9 & ASTM A234 WPB.
2. All dimensions are in millimeters.
3. For sizes larger than NPS 24 please call.
4. All weights are in kilograms and approximated or estimated.

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 15.76           | 2.77           | 76               | 48           | 40                   | 0.15                        |
| 3/4       | 26.7             | 20.96           | 2.87           | 76               | 51           | 40                   | 0.15                        |
| 1         | 33.4             | 26.64           | 3.38           | 76               | 56           | 40                   | 0.34                        |
| 1 1/4     | 42.2             | 35.08           | 3.56           | 95               | 70           | 40                   | 0.50                        |
| 1 1/2     | 48.3             | 40.94           | 3.68           | 114              | 83           | 40                   | 0.73                        |
| 2         | 60.3             | 52.48           | 3.91           | 152              | 106          | 40                   | 1.45                        |
| 2 1/2     | 73.0             | 62.68           | 5.16           | 190              | 132          | 40                   | 2.77                        |
| 3         | 88.9             | 77.92           | 5.49           | 229              | 159          | 40                   | 4.26                        |
| 3 1/2     | 101.6            | 90.12           | 5.74           | 267              | 184          | 40                   | 5.81                        |
| 4         | 114.3            | 102.26          | 6.02           | 305              | 210          | 40                   | 7.94                        |
| 5         | 141.3            | 128.20          | 6.55           | 381              | 262          | 40                   | 13.29                       |
| 6         | 168.3            | 154.08          | 7.11           | 457              | 313          | 40                   | 21.32                       |
| 8         | 219.1            | 202.74          | 8.18           | 610              | 414          | 40                   | 39.46                       |
| 10        | 273.0            | 254.46          | 9.27           | 762              | 518          | 40                   | 74.39                       |
| 12        | 323.8            | 303.18          | 10.31          | 914              | 619          | 40                   | 108.86                      |
| 14        | 355.6            | 333.34          | 11.13          | 1067             | 711          | 40                   | 142.88                      |
| 16        | 406.4            | 381.00          | 12.70          | 1219             | 813          | 40                   | 185.97                      |
| 18        | 457.0            | 428.46          | 14.27          | 1372             | 914          | 40                   | 235.87                      |
| 20        | 508.0            | 477.82          | 15.09          | 1524             | 1016         | 40                   | 290.30                      |
| 24        | 610.0            | 575.04          | 17.48          | 1829             | 1219         | 40                   | 415.03                      |

## LONG RADIUS SCHEDULE 80



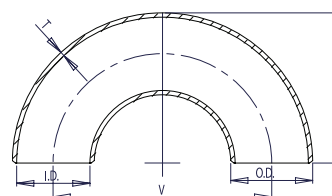
### NOTES

1. Conforms to ASME B16.9 & ASTM A234 WPB.
2. All dimensions are in millimeters.
3. All weights are in kilograms and approximated or estimated.

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 13.84           | 3.73           | 76               | 48           | 80                   | 0.20                        |
| 3/4       | 26.7             | 18.88           | 3.91           | 76               | 51           | 80                   | 0.24                        |
| 1         | 33.4             | 24.30           | 4.55           | 76               | 56           | 80                   | 0.44                        |
| 1 1/4     | 42.2             | 32.50           | 4.85           | 95               | 70           | 80                   | 0.73                        |
| 1 1/2     | 48.3             | 38.14           | 5.08           | 114              | 83           | 80                   | 1.00                        |
| 2         | 60.3             | 49.22           | 5.54           | 152              | 106          | 80                   | 1.86                        |
| 2 1/2     | 73.0             | 58.98           | 7.01           | 190              | 132          | 80                   | 3.49                        |
| 3         | 88.9             | 73.66           | 7.62           | 229              | 159          | 80                   | 5.62                        |
| 3 1/2     | 101.6            | 85.44           | 8.08           | 267              | 184          | 80                   | 7.76                        |
| 4         | 114.3            | 97.18           | 8.56           | 305              | 210          | 80                   | 10.93                       |
| 5         | 141.3            | 122.24          | 9.53           | 381              | 262          | 80                   | 18.91                       |
| 6         | 168.3            | 146.36          | 10.97          | 457              | 313          | 80                   | 30.93                       |
| 8         | 219.1            | 193.70          | 12.70          | 610              | 414          | 80                   | 63.50                       |
| 10        | 273.0            | 242.82          | 15.09          | 762              | 518          | 80                   | 99.79                       |
| 12        | 323.8            | 288.84          | 17.48          | 914              | 619          | 80                   | 142.88                      |
| 14        | 355.6            | 317.50          | 19.05          | 1067             | 711          | 80                   | 185.97                      |
| 16        | 406.4            | 363.52          | 21.44          | 1219             | 813          | 80                   | 249.47                      |
| 18        | 457.0            | 409.34          | 23.83          | 1372             | 914          | 80                   | 315.25                      |
| 20        | 508.0            | 455.62          | 26.19          | 1524             | 1016         | 80                   | 385.55                      |
| 24        | 610.0            | 548.08          | 30.96          | 1829             | 1219         | 80                   | 555.65                      |

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 11.74           | 4.78           | 76               | 48           | 160                  | 0.18                        |
| 3/4       | 26.7             | 15.58           | 5.56           | 76               | 51           | 160                  | 0.20                        |
| 1         | 33.4             | 20.70           | 6.35           | 76               | 56           | 160                  | 0.42                        |
| 1 1/4     | 42.2             | 29.50           | 6.35           | 95               | 70           | 160                  | 0.63                        |
| 1 1/2     | 48.3             | 34.02           | 7.14           | 114              | 83           | 160                  | 0.91                        |
| 2         | 60.3             | 42.82           | 8.74           | 152              | 106          | 160                  | 1.81                        |
| 2 1/2     | 73.0             | 53.94           | 9.53           | 190              | 132          | 160                  | 3.46                        |
| 3         | 88.9             | 66.64           | 11.13          | 229              | 159          | 160                  | 5.33                        |
| 4         | 114.3            | 87.32           | 13.49          | 305              | 210          | 160                  | 9.92                        |
| 5         | 141.3            | 109.54          | 15.88          | 381              | 262          | 160                  | 16.62                       |
| 6         | 168.3            | 131.78          | 18.26          | 457              | 313          | 160                  | 26.65                       |
| 8         | 219.1            | 173.08          | 23.01          | 610              | 414          | 160                  | 49.33                       |
| 10        | 273.0            | 215.84          | 28.58          | 762              | 518          | 160                  | 92.99                       |
| 12        | 323.8            | 257.16          | 33.32          | 914              | 619          | 160                  | 134.38                      |
| 14        | 355.6            | 284.18          | 35.71          | 1067             | 711          | 160                  | 176.33                      |
| 16        | 406.4            | 325.42          | 40.49          | 1219             | 813          | 160                  | 231.33                      |
| 18        | 457.0            | 366.52          | 45.24          | 1372             | 914          | 160                  | 291.43                      |
| 20        | 508.0            | 407.98          | 50.01          | 1524             | 1016         | 160                  | 360.60                      |
| 24        | 610.0            | 490.92          | 59.54          | 1829             | 1219         | 160                  | 514.82                      |

## LONG RADIUS SCHEDULE 160

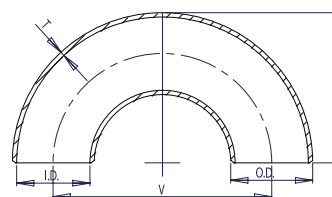


### NOTES

1. Conforms to ASME B16.9 & ASTM A234 WPB.
2. All dimensions are in millimeters.
3. All weights are in kilograms and approximated or estimated.

| Pipe Size | Outside Diameter | Inside Diameter | Wall Thickness | Center to Center | Back to Face | Pipe Schedule Number | Approx. Weight in Kilograms |
|-----------|------------------|-----------------|----------------|------------------|--------------|----------------------|-----------------------------|
| NPS       | O.D.             | I.D.            | T              | V                | W            |                      |                             |
| 1/2       | 21.3             | 6.36            | 7.47           | 76               | 48           | *                    | 0.20                        |
| 3/4       | 26.7             | 11.06           | 7.82           | 76               | 51           | *                    | 0.21                        |
| 1         | 33.4             | 15.22           | 9.09           | 76               | 56           | *                    | 0.46                        |
| 1 1/4     | 42.2             | 22.80           | 9.70           | 95               | 70           | *                    | 0.68                        |
| 1 1/2     | 48.3             | 28.00           | 10.15          | 114              | 83           | *                    | 1.00                        |
| 2         | 60.3             | 38.16           | 11.07          | 152              | 106          | *                    | 2.00                        |
| 2 1/2     | 73.0             | 44.96           | 14.02          | 190              | 132          | *                    | 3.81                        |
| 3         | 88.9             | 58.42           | 15.24          | 229              | 159          | *                    | 5.86                        |
| 4         | 114.3            | 80.06           | 17.12          | 305              | 210          | *                    | 10.91                       |
| 5         | 141.3            | 103.20          | 19.05          | 381              | 262          | *                    | 18.28                       |
| 6         | 168.3            | 124.40          | 21.95          | 457              | 313          | *                    | 29.32                       |
| 8         | 219.1            | 174.64          | 22.23          | 610              | 414          | *                    | 54.26                       |
| 10        | 273.0            | 222.20          | 25.40          | 762              | 518          | 140                  | 102.28                      |
| 12        | 323.8            | 273.00          | 25.40          | 914              | 619          | 120                  | 147.82                      |

## LONG RADIUS SCHEDULE XXS



### NOTES

1. Conforms to ASME B16.9 & ASTM A234 WPB.
  2. All dimensions are in millimeters.
  3. All weights are in kilograms and approximated or estimated.
- \* This size and thickness does not correspond to any pipe schedule number.