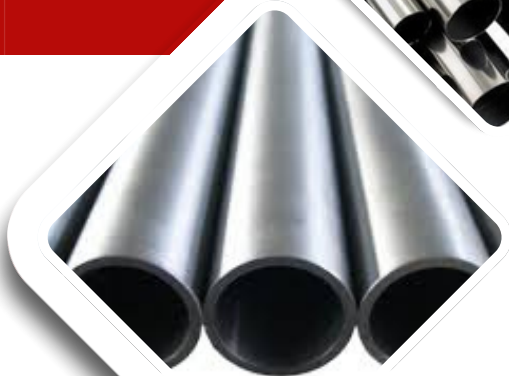
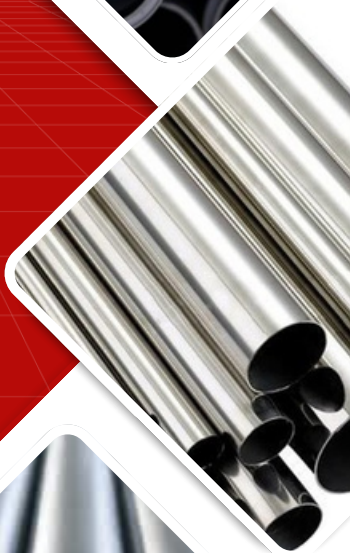
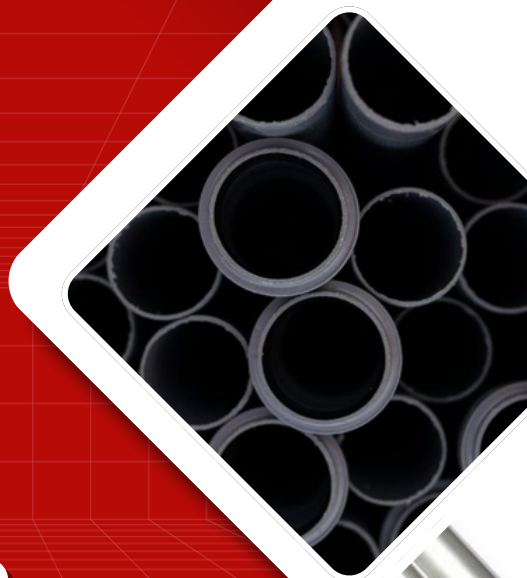


# OKI Pipes

**Brochure**

**OKI<sup>®</sup>**



# APPLICABLE SPECIFICATION

## 1. Line Pipes (Carbon Steel)

|               |                                                                        |
|---------------|------------------------------------------------------------------------|
| API 5L        | Line Pipe (Grade B, X42, X46, X52, X56, X60, X65, X70, X80, X90, X100) |
| ISO 3183      | Petroleum and natural gas industries -Steel Pipe for Pipelines-        |
| DNVGL-ST-F101 | Submarine Pipeline Systems (Applicable Design Code)                    |
| ASTM A53      | Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Seamless               |
| ASTM A106     | Seamless Carbon Steel Pipe for High-Temperature Service                |
| ASTM A333     | Seamless Steel Pipe for Low-Temperature Service                        |
| CSA Z245.1    | Steel Line Pipe                                                        |
| JIS G3454     | Carbon Steel Pipes for Pressure Service (STPG)                         |
| JIS G3455     | Carbon Steel Pipes for high Pressure Service (STS)                     |

## 2. Line Pipes (Corrosion Resistant Alloy)

|               |                                                              |
|---------------|--------------------------------------------------------------|
| API 5LC       | CRA Line Pipe                                                |
| DNVGL-ST-F101 | Submarine Pipeline Systems (Applicable Design Code)          |
| ASTM A790     | (S31803) Seamless Ferritic / Austenitic Stainless Steel Pipe |
| ASTM A790     | (S31260) seamless Ferritic / Austenitic Stainless Steel Pipe |

# MATERIAL DESIGN TECHNOLOGY

## 1. NIPPON STEEL MATERIAL DESIGN CONCEPT FOR SOUR SERVICE

### Performance

1.

High Strength  
& Toughness

2.

Excellent  
Weldability

3.

Excellent  
Corrosion  
Resistance

### Performance Requirements

Strength

Toughness

Weldability

HIC

### Design Concept

Strength Control by  
Q&T Heat Treatment

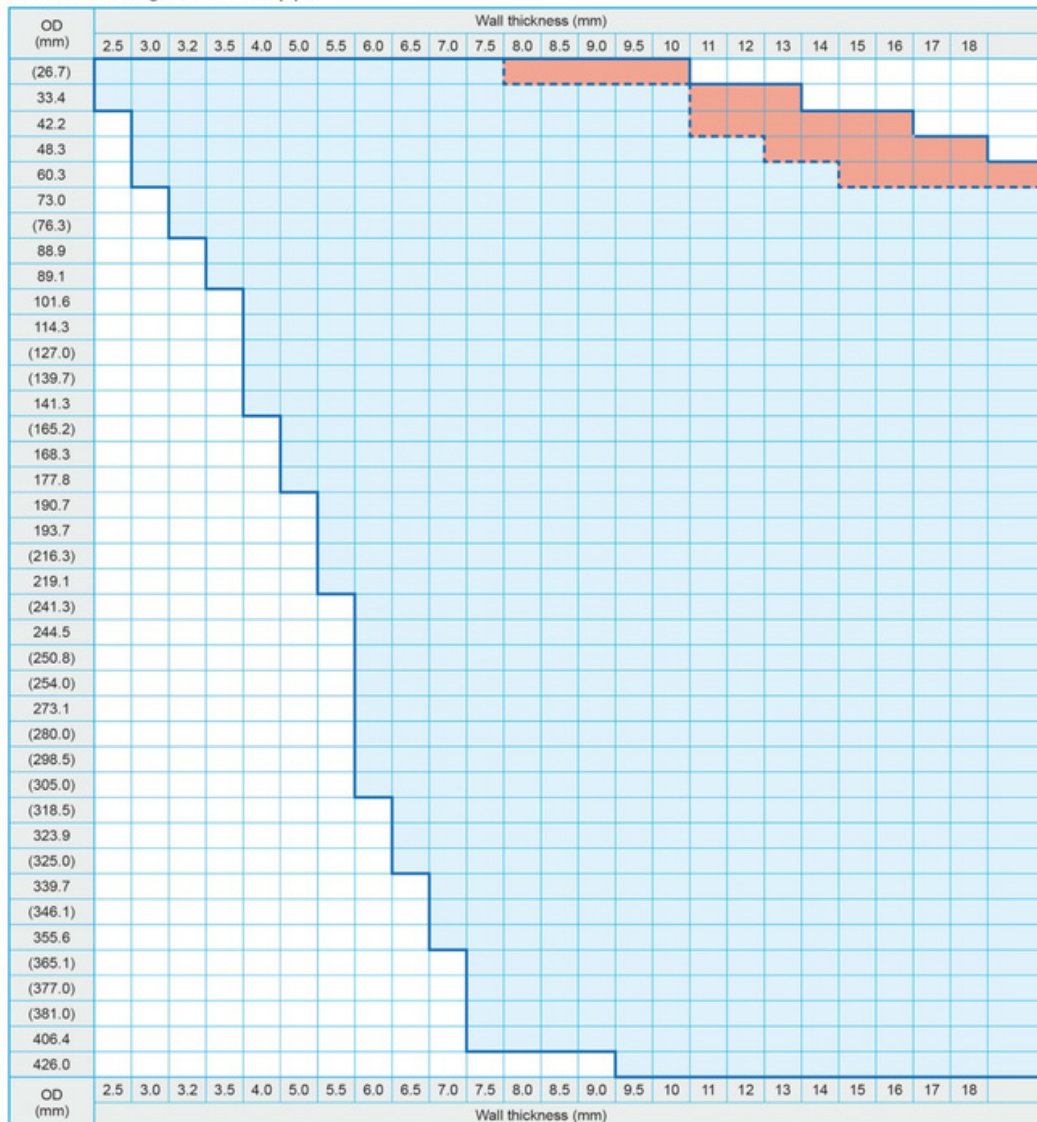
#### Clean steel

- Fully killed and fine grained
- Low P, S, N, O, H
- Inclusion shape control
- Low segregation

Pcm Control Weldability

# Manufacturing Available Size Range (Carbon Steel Pipes)

Available size range for seamless pipe



OD in parentheses : Please contact us in advance

— : Available size range for seamless pipe

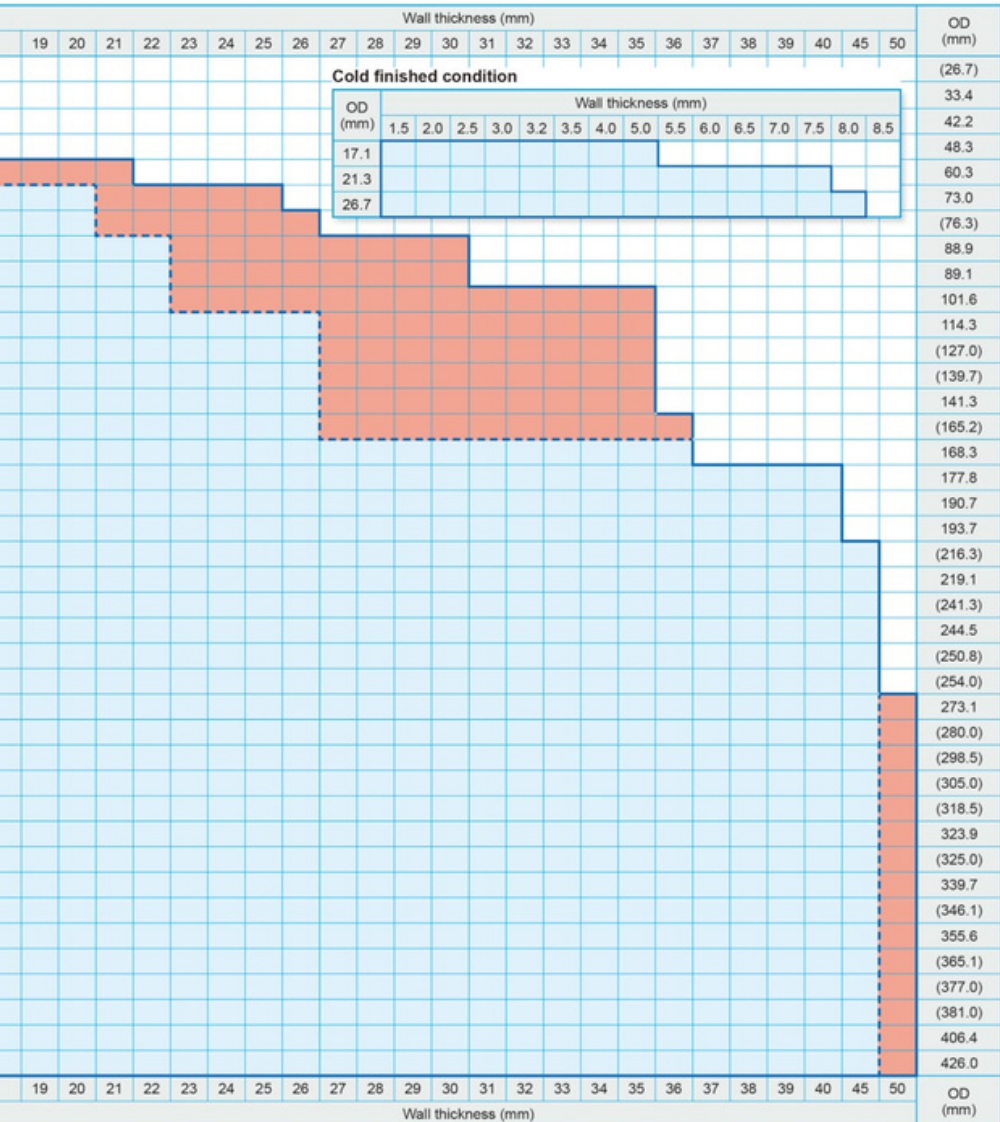
- - - : Permissible specified size range of API 5L



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For Inquiries:  
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For Concerns:  
✉ tiugregian@upcc1.com

📍 7th floor, Banawe Lifestyle  
Center Building, 86 Banawe  
St., Brgy. Sto. Domingo,  
Quezon City, Philippines



# CARBON STEEL LINE PIPE

NIPPON STEEL has supplied Carbon Steel Line pipe with low carbon and low Pcm material. And we can provide tighter ID tolerance at pipe end.

## NIPPON STEEL MATERIAL DESIGN CONCEPT FOR CARBON STEEL

- To Prevent HAZ Hardening in Field Girth Welding, our carbon steel is low carbon and low Pcm.

Table Chemical composition Nippon Steel compared to others

|              | Size (mm)        | C             | Si            | Mn            | P             | S             | Others                | Ceq (IIW) | Pcm  |
|--------------|------------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-----------|------|
| Nippon Steel | 355.6OD x 25.4WT | 0.05/<br>0.07 | 0.05/<br>0.15 | 1.05/<br>1.40 | max.<br>0.015 | max.<br>0.002 | Cr, Mo, Ti, and V     | 0.39      | 0.17 |
|              | 406.4OD x 25.4WT |               |               |               |               |               | Cr, Mo, Ti, and V     | 0.39      | 0.16 |
| Others       | 355.6OD x 25.4WT | 0.10/<br>0.12 | 0.20/<br>0.30 | 1.05/<br>1.40 | max.<br>0.015 | max.<br>0.002 | Cr, Mo, Ti, V and Nb  | 0.37      | 0.20 |
|              | 406.4OD x 25.4WT |               |               |               |               |               | Cu, Ni, Cr, Mo and Nb | 0.37      | 0.19 |

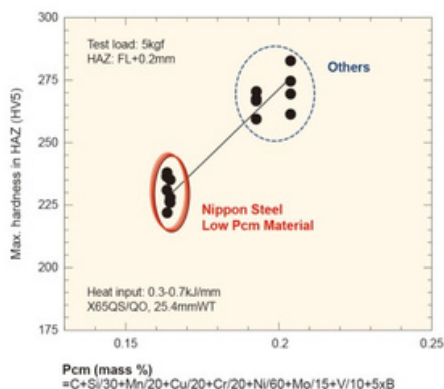
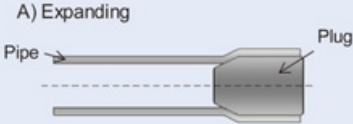
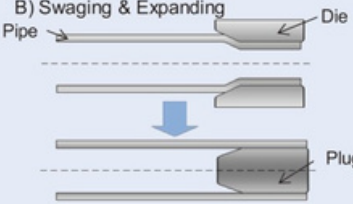
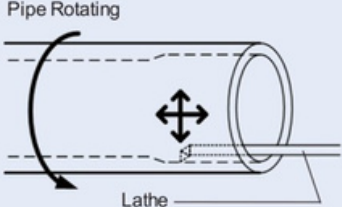


Fig. Hardness test results on typical field girth welds (Mechanized PGMAW)

Low Pcm material prevented HAZ hardening

## NIPPON STEEL PIPE END AVAILABLE ID TOLERANCE

Table Available ID Tolerance and control method

| Available ID tolerance | End Sizing<br>+/- 1.0mm                                                                                                                                                                                                   | End Machining<br>+/- 0.25mm                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| ID control method      | <p>A) Expanding</p>  <p>B) Swaging &amp; Expanding</p>  |  |

## PIPE DIMENSIONS AND WEIGHTS

| NOMINAL PIPE SIZE | OD    | SCHEDULE DESIGNATIONS | WALL THICKNESS | WEIGHT      | ID           |
|-------------------|-------|-----------------------|----------------|-------------|--------------|
| INCH              | INCH  | ASME                  | INCH           | MM          | MM           |
| 1/8               | 0.405 | STD 40                | 0.0656 1.73    | 0.24 0.37   | 0.269 5.84   |
| 1/8               | 0.405 | XS 80                 | 0.095 2.41     | 0.31 0.47   | 0.215 5.84   |
| 1/4               | 0.540 | STD 40                | 0.0656 1.65    | 0.33 0.49   | 0.410 10.40  |
| 1/4               | 0.540 | XS 80                 | 0.088 2.24     | 0.43 0.63   | 0.364 9.22   |
| 1/4               | 0.540 | XX 160                | 0.119 3.02     | 0.54 0.80   | 0.302 7.66   |
| 3/8               | 0.675 | STD 40                | 0.091 2.31     | 0.57 1.00   | 0.493 12.48  |
| 3/8               | 0.675 | XS 80                 | 0.126 3.20     | 0.74 1.10   | 0.423 10.70  |
| 1/2               | 0.840 | STD 40                | 0.083 2.11     | 0.67 1.00   | 0.674 17.08  |
| 1/2               | 0.840 | XS 80                 | 0.109 2.77     | 0.85 1.27   | 0.622 15.76  |
| 1/2               | 0.840 | XX 160                | 0.147 3.73     | 1.09 1.62   | 0.516 13.84  |
| 3/4               | 1.050 | STD 40                | 0.083 2.11     | 0.86 1.28   | 0.884 22.48  |
| 3/4               | 1.050 | XS 80                 | 0.113 2.87     | 1.13 1.69   | 0.824 20.86  |
| 3/4               | 1.050 | XX 160                | 0.154 3.91     | 1.43 2.07   | 0.742 18.88  |
| 1                 | 1.315 | STD 40                | 0.09 2.77      | 1.41 2.09   | 1.097 27.86  |
| 1                 | 1.315 | XS 80                 | 0.133 3.38     | 1.68 2.50   | 1.049 26.64  |
| 1                 | 1.315 | XX 160                | 0.179 4.55     | 2.17 3.24   | 0.957 24.30  |
| 1                 | 1.315 | XX 240                | 0.250 6.35     | 2.85 4.24   | 0.815 20.70  |
| 1                 | 1.315 | XX 360                | 0.358 9.09     | 3.66 5.45   | 0.599 15.22  |
| 1-1/4             | 1.660 | STD 40                | 0.09 2.77      | 1.81 2.69   | 1.442 36.66  |
| 1-1/4             | 1.660 | XS 80                 | 0.140 3.56     | 2.27 3.39   | 1.380 35.08  |
| 1-1/4             | 1.660 | XX 160                | 0.198 4.95     | 3.00 4.47   | 1.278 32.50  |
| 1-1/4             | 1.660 | XX 240                | 0.250 6.35     | 3.77 5.61   | 1.160 29.50  |
| 1-1/4             | 1.660 | XX 360                | 0.382 9.70     | 5.22 7.77   | 0.896 22.80  |
| 1-1/2             | 1.900 | STD 40                | 0.09 2.77      | 2.09 3.11   | 1.682 42.76  |
| 1-1/2             | 1.900 | XS 80                 | 0.145 3.68     | 2.72 4.05   | 1.600 40.84  |
| 1-1/2             | 1.900 | XX 160                | 0.200 5.08     | 3.63 5.41   | 1.500 38.14  |
| 1-1/2             | 1.900 | XX 240                | 0.281 7.14     | 4.86 7.25   | 1.338 34.02  |
| 1-1/2             | 1.900 | XX 360                | 0.400 10.15    | 6.41 9.55   | 1.000 28.00  |
| 2                 | 2.375 | STD 40                | 0.09 2.77      | 2.64 3.93   | 2.157 54.76  |
| 2                 | 2.375 | XS 80                 | 0.154 3.91     | 3.66 5.44   | 2.067 52.48  |
| 2                 | 2.375 | XX 160                | 0.218 5.54     | 5.03 7.48   | 1.946 49.22  |
| 2                 | 2.375 | XX 240                | 0.344 8.74     | 7.47 11.11  | 1.687 42.82  |
| 2                 | 2.375 | XX 360                | 0.436 11.07    | 9.04 13.44  | 1.503 38.16  |
| 2-1/2             | 2.875 | STD 40                | 0.120 3.05     | 3.53 5.26   | 2.635 66.90  |
| 2-1/2             | 2.875 | XS 80                 | 0.203 5.16     | 5.80 8.53   | 2.489 62.68  |
| 2-1/2             | 2.875 | XX 160                | 0.276 7.01     | 7.67 11.27  | 2.323 58.98  |
| 2-1/2             | 2.875 | XX 240                | 0.375 9.53     | 10.02 14.92 | 2.125 53.94  |
| 2-1/2             | 2.875 | XX 360                | 0.552 14.02    | 13.71 20.39 | 1.771 44.96  |
| 3                 | 3.500 | STD 40                | 0.120 3.05     | 4.34 6.46   | 3.260 82.80  |
| 3                 | 3.500 | XS 80                 | 0.216 5.49     | 7.58 12.09  | 3.068 77.92  |
| 3                 | 3.500 | XX 160                | 0.300 7.62     | 10.26 15.27 | 2.900 73.66  |
| 3                 | 3.500 | XX 240                | 0.438 11.13    | 14.34 21.35 | 2.624 66.64  |
| 3                 | 3.500 | XX 360                | 0.600 15.24    | 18.60 27.68 | 2.300 58.42  |
| 4                 | 4.500 | STD 40                | 0.120 3.05     | 5.62 8.37   | 4.200 108.20 |
| 4                 | 4.500 | XS 80                 | 0.237 6.02     | 10.80 16.08 | 4.026 102.26 |
| 4                 | 4.500 | XX 160                | 0.337 8.56     | 15.00 22.32 | 3.826 97.18  |
| 4                 | 4.500 | XX 240                | 0.438 11.13    | 19.02 28.32 | 3.624 92.04  |
| 4                 | 4.500 | XX 360                | 0.531 13.49    | 22.53 33.54 | 3.438 87.32  |
| 4                 | 4.500 | XX 480                | 0.674 17.12    | 27.57 40.03 | 3.152 80.06  |
| 5                 | 5.563 | STD 40                | 0.124 3.40     | 7.76 11.56  | 5.295 134.50 |
| 5                 | 5.563 | XS 80                 | 0.258 6.55     | 14.63 21.77 | 5.047 128.20 |
| 5                 | 5.563 | XX 160                | 0.375 9.53     | 20.80 30.97 | 4.813 122.24 |
| 5                 | 5.563 | XX 240                | 0.500 12.70    | 27.06 40.28 | 4.583 115.90 |
| 5                 | 5.563 | XX 360                | 0.625 15.88    | 32.99 49.12 | 4.333 109.84 |
| 5                 | 5.563 | XX 480                | 0.750 19.05    | 38.59 57.43 | 4.063 103.20 |
| 6                 | 6.625 | STD 40                | 0.134 3.40     | 9.30 13.83  | 6.357 161.60 |
| 6                 | 6.625 | XS 80                 | 0.188 4.78     | 12.94 19.28 | 6.248 158.74 |
| 6                 | 6.625 | XX 160                | 0.280 7.11     | 18.99 28.26 | 5.965 154.08 |
| 6                 | 6.625 | XX 240                | 0.432 10.97    | 28.60 42.56 | 5.761 146.36 |
| 6                 | 6.625 | XX 360                | 0.562 14.27    | 36.43 54.21 | 5.501 139.76 |
| 6                 | 6.625 | XX 480                | 0.719 18.26    | 45.39 67.57 | 5.187 131.76 |
| 6                 | 6.625 | XX 600                | 0.864 21.95    | 53.21 78.22 | 4.897 124.40 |

| NOMINAL PIPE SIZE | DD     | SCHEDULE DESIGNATIONS | WALL THICKNESS | WEIGHT        | ID            |
|-------------------|--------|-----------------------|----------------|---------------|---------------|
| INCH              | INCH   | ASME                  | INCH           | MM            | MM            |
| 8                 | 8.625  | 10                    | 0.148 3.76     | 13.41 19.97   | 8.339 211.58  |
| 200               | 219.1  | 20                    | 0.250 6.35     | 22.38 33.32   | 8.125 206.40  |
|                   |        | 30                    | 0.277 7.04     | 24.72 36.82   | 8.071 205.02  |
|                   |        | 40                    | 0.322 8.18     | 28.58 42.55   | 7.981 202.74  |
|                   |        | 60                    | 0.405 10.31    | 35.87 53.09   | 7.803 198.88  |
|                   |        | 80                    | 0.500 12.70    | 43.43 64.64   | 7.625 193.70  |
|                   |        | 100                   | 0.594 15.09    | 51.00 75.92   | 7.447 188.92  |
|                   |        | 120                   | 0.719 18.26    | 60.77 90.44   | 7.187 182.58  |
|                   |        | 140                   | 0.812 20.62    | 67.82 100.93  | 7.001 177.86  |
|                   |        | 160                   | 0.875 22.23    | 72.49 107.93  | 6.875 174.64  |
|                   |        | 180                   | 0.906 23.01    | 74.76 112.27  | 6.813 173.08  |
| 10                | 10.750 | 20                    | 0.188 4.78     | 21.23 31.62   | 10.374 263.44 |
| 150               | 177.8  | 30                    | 0.250 6.35     | 28.06 41.76   | 10.250 260.30 |
|                   |        | 40                    | 0.307 7.80     | 34.27 51.01   | 10.136 257.40 |
|                   |        | 60                    | 0.365 9.27     | 40.52 60.29   | 10.020 254.48 |
|                   |        | 80                    | 0.500 12.70    | 54.78 81.53   | 9.750 247.60  |
|                   |        | 100                   | 0.594 15.09    | 64.49 95.88   | 9.582 242.82  |
|                   |        | 120                   | 0.719 18.26    | 77.10 114.71  | 9.312 236.48  |
|                   |        | 140                   | 0.844 21.44    | 88.38 133.01  | 9.052 230.12  |
|                   |        | 160                   | 1.000 25.40    | 104.23 155.10 | 8.750 222.20  |
|                   |        | 180                   | 1.125 28.58    | 115.75 172.27 | 8.500 216.84  |
| 12                | 12.750 | 20                    | 0.188 4.78     | 25.25 37.61   | 12.374 314.24 |
| 300               | 323.8  | 30                    | 0.250 6.35     | 33.41 49.71   | 12.250 311.10 |
|                   |        | 40                    | 0.330 8.38     | 43.81 65.19   | 12.090 307.04 |
|                   |        | 60                    | 0.375 9.53     | 49.61 73.86   | 12.000 304.74 |
|                   |        | 80                    | 0.406 10.31    | 53.57 79.71   | 11.938 303.18 |
|                   |        | 100                   | 0.500 12.70    | 65.48 97.44   | 11.750 298.40 |
|                   |        | 120                   | 0.562 14.27    | 76.69 113.93  | 11.526 293.26 |
|                   |        | 140                   | 0.688 17.48    | 88.71 132.05  | 11.374 288.64 |
|                   |        | 160                   | 0.844 21.44    | 107.42 159.87 | 11.062 280.92 |
|                   |        | 180                   | 1.000 25.40    | 125.81 186.92 | 10.750 273.00 |
|                   |        | 200                   | 1.125 28.58    | 139.81 208.08 | 10.500 266.64 |
|                   |        | 220                   | 1.312 33.42    | 160.42 238.69 | 10.126 257.16 |
| 14                | 14.000 | 20                    | 0.250 6.35     | 36.76 54.69   | 13.500 342.90 |
| 350               | 355.6  | 30                    | 0.312 7.92     | 45.65 67.91   | 13.376 339.76 |
|                   |        | 40                    | 0.375 9.53     | 54.62 81.33   | 13.250 336.54 |
|                   |        | 60                    | 0.438 11.13    | 63.50 94.55   | 13.124 333.34 |
|                   |        | 80                    | 0.500 12.70    | 72.16 107.40  | 13.000 330.20 |
|                   |        | 100                   | 0.594 15.09    | 85.13 126.72  | 12.812 325.42 |
|                   |        | 120                   | 0.750 19.05    | 106.23 158.11 | 12.500 317.50 |
|                   |        | 140                   | 0.938 23.93    | 130.98 194.98 | 12.154 307.84 |
|                   |        | 160                   | 1.094 27.79    | 150.93 224.66 | 11.812 300.02 |
|                   |        | 180                   | 1.250 31.75    | 170.37 253.58 | 11.500 292.10 |
|                   |        | 200                   | 1.406 35.71    | 192.29 281.72 | 11.188 284.18 |
| 16                | 16.000 | 20                    | 0.250 6.35     | 42.09 62.65   | 15.500 393.70 |
| 400               | 406.4  | 30                    | 0.312 7.92     | 52.32 77.83   | 15.376 390.56 |
|                   |        | 40                    | 0.375 9.53     | 62.64 93.27   | 15.250 387.34 |
|                   |        | 60                    | 0.500 12.70    | 82.85 123.31  | 15.000 381.00 |
|                   |        | 80                    | 0.656 16.66    | 107.60 160.13 | 14.688 373.08 |
|                   |        | 100                   | 0.844 21.44    | 136.74 203.54 | 14.312 365.52 |
|                   |        | 120                   | 1.219 30.96    | 192.61 281.66 | 13.952 344.48 |
|                   |        | 160                   | 1.594 40.49    | 245.48 355.38 | 13.612 325.42 |
| 18                | 18.000 | 20                    | 0.250 6.35     | 47.44 70.57   | 17.500 444.30 |
| 450               | 457    | 30                    | 0.312 7.92     | 58.16 87.71   | 17.376 441.16 |
|                   |        | 40                    | 0.375 9.53     | 70.65 105.17  | 17.250 437.94 |
|                   |        | 60                    | 0.438 11.13    | 82.23 122.38  | 17.124 434.74 |
|                   |        | 80                    | 0.500 12.70    | 93.54 139.16  | 17.000 431.60 |
|                   |        | 100                   | 0.562 14.27    | 104.76 155.81 | 16.876 428.46 |
|                   |        | 120                   | 0.750 19.05    | 138.30 205.75 | 16.500 418.90 |
|                   |        | 140                   | 0.938 23.93    | 171.08 254.57 | 16.124 409.34 |
|                   |        | 160                   | 1.376 34.93    | 244.37 353.58 | 15.250 387.14 |
|                   |        | 180                   | 1.781 45.24    | 308.79 459.39 | 14.438 366.52 |
| 20                | 20.000 | 20                    | 0.250 6.35     | 52.78 78.56   | 19.500 496.30 |
| 500               | 508    | 30                    | 0.375 9.53     | 78.67 117.15  | 19.250 488.94 |
|                   |        | 40                    | 0.500 12.70    | 104.23 155.13 | 19.000 482.80 |
|                   |        | 60                    | 0.594 15.09    | 123.23 182.12 | 18.812 477.82 |
|                   |        | 80                    | 0.812 20.62    | 166.56 247.84 | 18.376 466.76 |
|                   |        | 100                   | 1.031 26.19    | 209.06 311.9  | 17.938 455.62 |
|                   |        | 120                   | 1.500 38.10    | 296.85 441.52 | 17.000 431.80 |
|                   |        | 160                   | 1.989 50.01    | 375.53 564.85 | 16.062 407.88 |

\*PLEASE NOTE AS PER ASME ALL PIPES HAVE A TOLERANCE OF ± 12.5%

## SPECIFICATIONS:

## STANDARDS:

ASTM A53/A106 GRADE B, ASME, API, AND ANSI B 36.10

- Wall Thickness: ±12.5%
- Size: 1/4" - 48"
- Thickness: Schedule: 10 - 160
- All items will have an accompanying Mill Test Certificate upon request

## APPLICATIONS:

- Industrial
- Residential
- Petrochemical Plants
- Oil & Gas
- Refineries
- Sugar Mills
- Energy
- Construction & Infrastructure
- Chemicals
- Machineries
- Boilers
- Food & Beverage
- Shipping
- Desalination Plant
- Automotive & Transport
- High-Pressure Vessel
- Power Plants



**OKI<sup>®</sup>**

**UPCC 2025**