

# PIPE INDEX

|  |   |    |
|--|---|----|
| STAINLESS STEEL WELDED / SEAMLESS PIPE | DIMENSION AND WEIGHT.....                               | 2  |
| STAINLESS STEEL WELDED PIPE            | TYPE 304L SCH. 5S, 10S ALLOWABLE WORKING PRESSURE.....  | 3  |
| STAINLESS STEEL WELDED PIPE            | TYPE 304 SCH. 10S ALLOWABLE WORKING PRESSURE.....       | 4  |
| STAINLESS STEEL WELDED PIPE            | TYPE 304L SCH. 40S, 80S ALLOWABLE WORKING PRESSURE..... | 5  |
| STAINLESS STEEL WELDED PIPE            | TYPE 304 SCH. 40S, 80S ALLOWABLE WORKING PRESSURE.....  | 6  |
| STAINLESS STEEL WELDED PIPE            | TYPE 316L SCH. 5S, 10S ALLOWABLE WORKING PRESSURE.....  | 7  |
| STAINLESS STEEL WELDED PIPE            | TYPE 316 SCH. 10S ALLOWABLE WORKING PRESSURE.....       | 8  |
| STAINLESS STEEL WELDED PIPE            | TYPE 316L SCH. 40S, 80S ALLOWABLE WORKING PRESSURE..... | 9  |
| STAINLESS STEEL WELDED PIPE            | TYPE 316 SCH. 40S, 80S ALLOWABLE WORKING PRESSURE.....  | 10 |



# STAINLESS STEEL WELDED / SEAMLESS PIPE

## DIMENSION AND WEIGHT



### DIMENSIONS

unit : inch / lb

| SCHEDULE        | 5S                | 10S            | 40S            | 80S            | 10              | 20              | 30              | 40              | 60              | 80              | 100             | 120             | 140             | 160             | STD             | XS              | XXS             |
|-----------------|-------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| SIZE<br>O.D.    | Wall/In<br>Wgt/Ft |                |                |                |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 1/4"<br>0.540   |                   |                | 0.088<br>0.43  | 0.119<br>0.54  |                 |                 |                 | 0.088<br>0.43   |                 | 0.119<br>0.54   |                 |                 |                 |                 | 0.088<br>0.43   | 0.119<br>0.54   |                 |
| 3/8"<br>0.675   |                   |                | 0.091<br>0.57  | 0.126<br>0.76  |                 |                 |                 | 0.091<br>0.57   |                 | 0.126<br>0.76   |                 |                 |                 |                 | 0.091<br>0.57   | 0.126<br>0.76   |                 |
| 1/2"<br>0.840   | 0.065<br>0.54     | 0.083<br>0.68  | 0.109<br>0.86  | 0.147<br>1.10  |                 |                 | 0.095<br>0.76   | 0.109<br>0.86   |                 | 0.147<br>1.10   |                 |                 |                 | 0.188<br>1.32   | 0.109<br>0.86   | 0.147<br>1.10   | 0.294<br>1.73   |
| 3/4"<br>1.050   | 0.065<br>0.69     | 0.083<br>0.87  | 0.113<br>1.14  | 0.154<br>1.49  |                 |                 | 0.095<br>0.98   | 0.113<br>1.14   |                 | 0.154<br>1.49   |                 |                 |                 | 0.219<br>1.96   | 0.113<br>1.14   | 0.154<br>1.49   | 0.308<br>2.46   |
| 1"<br>1.315     | 0.065<br>0.88     | 0.109<br>1.42  | 0.133<br>1.69  | 0.179<br>2.19  |                 |                 | 0.114<br>1.48   | 0.133<br>1.69   |                 | 0.179<br>2.19   |                 |                 |                 | 0.250<br>2.87   | 0.133<br>1.69   | 0.179<br>2.19   | 0.358<br>3.69   |
| 1 1/4"<br>1.660 | 0.065<br>1.12     | 0.109<br>1.82  | 0.140<br>2.29  | 0.191<br>3.02  |                 |                 | 0.117<br>1.95   | 0.140<br>2.29   |                 | 0.191<br>3.02   |                 |                 |                 | 0.250<br>3.80   | 0.140<br>2.29   | 0.191<br>3.02   | 0.382<br>5.26   |
| 1 1/2"<br>1.900 | 0.065<br>1.29     | 0.109<br>2.10  | 0.145<br>2.74  | 0.200<br>3.67  |                 |                 | 0.125<br>2.39   | 0.145<br>2.74   |                 | 0.200<br>3.67   |                 |                 |                 | 0.281<br>4.90   | 0.145<br>2.74   | 0.200<br>3.67   | 0.400<br>6.47   |
| 2"<br>2.375     | 0.065<br>1.62     | 0.109<br>2.66  | 0.154<br>3.69  | 0.218<br>5.07  |                 |                 | 0.125<br>3.03   | 0.154<br>3.69   |                 | 0.218<br>5.07   |                 |                 |                 | 0.344<br>7.53   | 0.154<br>3.69   | 0.218<br>5.07   | 0.436<br>9.11   |
| 2 1/2"<br>2.875 | 0.083<br>2.50     | 0.120<br>3.56  | 0.203<br>5.85  | 0.276<br>7.73  |                 |                 | 0.188<br>5.45   | 0.203<br>5.85   |                 | 0.276<br>7.73   |                 |                 |                 | 0.375<br>10.11  | 0.203<br>5.85   | 0.276<br>7.73   | 0.552<br>13.82  |
| 3"<br>3.500     | 0.083<br>3.06     | 0.120<br>4.37  | 0.216<br>7.65  | 0.300<br>10.35 |                 |                 | 0.188<br>6.71   | 0.216<br>7.65   |                 | 0.300<br>10.35  |                 |                 |                 | 0.438<br>14.46  | 0.216<br>7.65   | 0.300<br>10.35  | 0.600<br>18.76  |
| 3 1/2"<br>4.000 | 0.083<br>3.50     | 0.120<br>5.02  | 0.226<br>9.19  | 0.318<br>12.62 |                 |                 | 0.188<br>7.73   | 0.226<br>9.19   |                 | 0.318<br>12.62  |                 |                 |                 |                 | 0.226<br>9.19   | 0.318<br>12.62  |                 |
| 4"<br>4.500     | 0.083<br>3.95     | 0.120<br>5.67  | 0.237<br>10.89 | 0.337<br>15.12 |                 |                 | 0.188<br>8.74   | 0.237<br>10.89  |                 | 0.337<br>15.12  |                 | 0.438<br>19.18  |                 | 0.531<br>22.72  | 0.237<br>10.89  | 0.337<br>15.12  | 0.674<br>27.8   |
| 5"<br>5.563     | 0.109<br>6.41     | 0.134<br>7.84  | 0.258<br>14.75 | 0.375<br>20.97 |                 |                 |                 | 0.258<br>14.75  |                 | 0.375<br>20.97  |                 | 0.500<br>27.29  |                 | 0.625<br>33.27  | 0.258<br>14.75  | 0.375<br>20.97  | 0.750<br>38.91  |
| 6"<br>6.625     | 0.109<br>7.66     | 0.134<br>9.38  | 0.280<br>19.15 | 0.432<br>28.84 |                 |                 |                 | 0.280<br>19.15  |                 | 0.432<br>28.84  |                 | 0.562<br>36.73  |                 | 0.719<br>45.78  | 0.280<br>19.15  | 0.432<br>28.84  | 0.864<br>53.66  |
| 8"<br>8.625     | 0.109<br>10.01    | 0.148<br>13.52 | 0.322<br>28.82 | 0.500<br>43.79 |                 | 0.250<br>22.57  | 0.277<br>24.93  | 0.322<br>28.82  | 0.405<br>35.97  | 0.500<br>43.79  | 0.594<br>51.43  | 0.719<br>61.28  | 0.812<br>68.39  | 0.906<br>75.39  | 0.322<br>28.82  | 0.500<br>43.79  | 0.875<br>73.1   |
| 10"<br>10.750   | 0.134<br>15.34    | 0.165<br>18.83 | 0.365<br>40.86 | 0.500<br>55.25 |                 | 0.250<br>28.3   | 0.307<br>34.56  | 0.365<br>40.86  | 0.500<br>55.25  | 0.594<br>65.03  | 0.719<br>77.75  | 0.844<br>90.13  | 1.000<br>105.11 | 1.125<br>116.73 | 0.365<br>40.86  | 0.500<br>55.25  | 1.000<br>105.11 |
| 12"<br>12.750   | 0.156<br>21.18    | 0.180<br>24.39 | 0.375<br>50.03 | 0.500<br>66.03 |                 | 0.250<br>33.69  | 0.330<br>44.18  | 0.406<br>54.03  | 0.562<br>73.84  | 0.688<br>89.46  | 0.844<br>108.32 | 1.000<br>126.67 | 1.125<br>140.98 | 1.312<br>161.77 | 0.375<br>50.03  | 0.500<br>66.03  | 1.000<br>126.67 |
| 14"<br>14.000   | 0.156<br>23.28    | 0.188<br>27.99 | *              | **             | 0.250<br>37.06  | 0.312<br>46.04  | 0.375<br>55.08  | 0.438<br>64.03  | 0.594<br>85.84  | 0.750<br>107.13 | 0.938<br>132.08 | 1.094<br>152.2  | 1.250<br>171.81 | 1.406<br>190.88 | 0.375<br>55.08  | 0.500<br>72.77  |                 |
| 16"<br>16.000   | 0.165<br>28.17    | 0.188<br>32.05 | *              | **             | 0.250<br>42.45  | 0.312<br>52.76  | 0.375<br>63.16  | 0.500<br>83.55  | 0.656<br>108.51 | 0.844<br>137.89 | 1.031<br>166.37 | 1.219<br>194.23 | 1.438<br>225.73 | 1.594<br>247.54 | 0.375<br>63.16  | 0.500<br>83.55  |                 |
| 18"<br>18.000   | 0.165<br>31.72    | 0.188<br>36.10 | *              | **             | 0.250<br>47.84  | 0.312<br>59.49  | 0.438<br>82.92  | 0.562<br>105.65 | 0.750<br>139.47 | 0.938<br>172.52 | 1.156<br>209.9  | 1.375<br>246.42 | 1.562<br>276.79 | 1.781<br>311.39 | 0.375<br>71.25  | 0.500<br>94.33  |                 |
| 20"<br>20.000   | 0.188<br>40.15    | 0.218<br>46.49 | *              | **             | 0.250<br>53.23  | 0.375<br>79.33  | 0.500<br>105.11 | 0.594<br>124.26 | 0.812<br>167.96 | 1.031<br>210.82 | 1.281<br>258.49 | 1.500<br>299.15 | 1.750<br>344.29 | 1.969<br>382.72 | 0.375<br>79.33  | 0.500<br>105.11 |                 |
| 24"<br>24.000   | 0.218<br>55.89    | 0.250<br>64.01 | *              | **             | 0.250<br>64.01  | 0.375<br>95.50  | 0.562<br>142.00 | 0.688<br>172.9  | 0.969<br>240.58 | 1.219<br>299.36 | 1.531<br>370.83 | 1.812<br>433.41 | 2.062<br>487.65 | 2.344<br>547.21 | 0.375<br>95.50  | 0.500<br>126.67 |                 |
| 30"<br>30.000   | 0.250<br>80.18    | 0.312<br>99.85 | *              | **             | 0.312<br>98.85  | 0.500<br>159.01 | 0.625<br>197.91 |                 |                 |                 |                 |                 |                 |                 | 0.375<br>119.76 | 0.500<br>159.01 |                 |
| 36"<br>36.000   |                   |                |                |                | 0.312<br>120.03 | 0.500<br>191.35 | 0.625<br>238.34 | 0.750<br>285.00 |                 |                 |                 |                 |                 |                 | 0.375<br>144.01 | 0.500<br>191.35 |                 |

Highlighted Produced by Ta Chen Stainless Pipe Co, Ltd. \*SEE STD WALL \*\*SEE XS WALL

# STAINLESS STEEL WELDED PIPE

## TYPE 304L SCHEDULES 5S, 10S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 304L Schedules 5S, 10S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400          | 500          | 600          | 650          | 700          | 750          | 800          | 850          | 900          | 950          | 1000         | 1050         | 1100         | 1150        | 1200       | 1250       | 1300       | 1350       | 1400       | 1450       | 1500       |            |
|----------------------|-------------|---------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MAX. STRESS          |             |               | 16700                            | 15800        | 14800        | 14000        | 13700        | 13500        | 13300        | 13000        | 12800        | 11900        | 9900         | 7800         | 6300         | 5100         | 4000        | 3200       | 2600       | 2100       | 1700       | 1100       | 1000       | 900        |            |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |              |              |              |              |              |              |              |              |              |              |              |              |              |             |            |            |            |            |            |            |            |            |
|                      |             |               | ½                                | 5S<br>10S    | .065<br>.083 | 1809<br>2310 | 1712<br>2186 | 1603<br>2047 | 1517<br>1937 | 1484<br>1695 | 1463<br>1868 | 1441<br>1840 | 1408<br>1798 | 1387<br>1771 | 1289<br>1646 | 1073<br>1370 | 845<br>1079 | 683<br>872 | 553<br>706 | 433<br>553 | 347<br>443 | 282<br>360 | 226<br>291 | 184<br>235 | 119<br>152 |
| ¾                    | 5S<br>10S   | .065<br>.083  | 1447<br>1848                     | 1389<br>1749 | 1283<br>1636 | 1213<br>1549 | 1187<br>1516 | 1170<br>1494 | 1153<br>1472 | 1127<br>1439 | 1109<br>1417 | 1031<br>1317 | 858<br>1096  | 676<br>863   | 546<br>697   | 442<br>564   | 347<br>443  | 277<br>354 | 225<br>288 | 182<br>232 | 147<br>188 | 95<br>122  | 87<br>111  | 78<br>100  |            |
| 1                    | 5S<br>10S   | .065<br>.109  | 1156<br>1938                     | 1093<br>1834 | 1024<br>1717 | 969<br>1625  | 948<br>1590  | 934<br>1567  | 920<br>1543  | 900<br>1509  | 886<br>1485  | 823<br>1381  | 835<br>1149  | 540<br>905   | 436<br>731   | 353<br>592   | 277<br>464  | 221<br>371 | 180<br>302 | 145<br>244 | 118<br>197 | 76<br>128  | 69<br>116  | 62<br>104  |            |
| 1¼                   | 5S<br>10S   | .065<br>.109  | 915<br>1535                      | 888<br>1452  | 811<br>1361  | 767<br>1287  | 751<br>1259  | 740<br>1241  | 729<br>1223  | 713<br>1195  | 702<br>1177  | 652<br>1094  | 543<br>910   | 426<br>717   | 345<br>579   | 280<br>469   | 219<br>368  | 175<br>294 | 143<br>239 | 115<br>193 | 93<br>156  | 60<br>101  | 55<br>92   | 49<br>83   |            |
| 1½                   | 5S<br>10S   | .065<br>.109  | 800<br>1341                      | 757<br>1269  | 709<br>1189  | 671<br>1124  | 656<br>1100  | 647<br>1064  | 637<br>1068  | 623<br>1044  | 613<br>1028  | 570<br>956   | 474<br>795   | 374<br>626   | 302<br>506   | 244<br>410   | 192<br>321  | 153<br>257 | 125<br>209 | 101<br>169 | 81<br>137  | 53<br>88   | 48<br>60   | 43<br>72   |            |
| 2                    | 5S<br>10S   | .065<br>.109  | 640<br>1073                      | 605<br>1015  | 587<br>951   | 538<br>900   | 525<br>880   | 517<br>867   | 510<br>855   | 498<br>835   | 490<br>822   | 456<br>765   | 379<br>636   | 299<br>501   | 241<br>405   | 195<br>328   | 153<br>257  | 123<br>206 | 100<br>167 | 80<br>135  | 65<br>109  | 42<br>71   | 38<br>64   | 34<br>58   |            |
| 2½                   | 5S<br>10S   | .083<br>.120  | 675<br>976                       | 639<br>923   | 598<br>865   | 566<br>818   | 554<br>801   | 546<br>789   | 538<br>777   | 525<br>760   | 517<br>748   | 481<br>695   | 400<br>579   | 315<br>456   | 255<br>388   | 206<br>298   | 162<br>234  | 129<br>187 | 105<br>152 | 85<br>123  | 69<br>99   | 44<br>64   | 40<br>58   | 36<br>53   |            |
| 3                    | 5S<br>10S   | .083<br>.120  | 554<br>802                       | 525<br>758   | 491<br>710   | 465<br>672   | 455<br>658   | 448<br>648   | 442<br>638   | 432<br>624   | 425<br>614   | 395<br>571   | 329<br>475   | 259<br>374   | 209<br>302   | 169<br>245   | 133<br>192  | 106<br>154 | 86<br>125  | 70<br>101  | 56<br>82   | 37<br>53   | 33<br>48   | 30<br>43   |            |
| 3½                   | 5S<br>10S   | .083<br>.120  | 485<br>701                       | 459<br>664   | 430<br>622   | 407<br>588   | 398<br>575   | 392<br>567   | 386<br>559   | 378<br>546   | 372<br>538   | 346<br>500   | 288<br>416   | 227<br>328   | 183<br>265   | 148<br>214   | 116<br>168  | 93<br>134  | 76<br>109  | 61<br>88   | 49<br>71   | 32<br>46   | 29<br>42   | 26<br>38   |            |
| 4                    | 5S<br>10S   | .083<br>.120  | 431<br>623                       | 408<br>590   | 382<br>553   | 362<br>523   | 354<br>511   | 349<br>504   | 343<br>497   | 336<br>485   | 331<br>478   | 307<br>444   | 256<br>370   | 201<br>291   | 163<br>235   | 132<br>190   | 103<br>149  | 83<br>119  | 67<br>97   | 54<br>78   | 44<br>63   | 28<br>41   | 26<br>37   | 23<br>34   |            |
| 5                    | 5S<br>10S   | .109<br>.134  | 458<br>583                       | 433<br>533   | 406<br>499   | 384<br>472   | 376<br>462   | 370<br>455   | 365<br>449   | 357<br>438   | 351<br>432   | 326<br>401   | 272<br>334   | 214<br>263   | 173<br>212   | 140<br>172   | 110<br>135  | 88<br>108  | 71<br>88   | 58<br>71   | 47<br>57   | 30<br>37   | 27<br>34   | 25<br>30   |            |
| 6                    | 5S<br>10S   | .109<br>.134  | 385<br>473                       | 364<br>447   | 341<br>419   | 322<br>396   | 316<br>388   | 311<br>362   | 306<br>377   | 299<br>368   | 295<br>362   | 274<br>337   | 228<br>260   | 180<br>221   | 145<br>178   | 117<br>144   | 92<br>113   | 74<br>91   | 60<br>74   | 48<br>59   | 39<br>48   | 25<br>31   | 23<br>28   | 21<br>25   |            |
| 8                    | 5S<br>10S   | .109<br>.148  | 295<br>401                       | 280<br>380   | 262<br>356   | 248<br>336   | 242<br>329   | 239<br>324   | 235<br>320   | 230<br>312   | 226<br>307   | 211<br>286   | 175<br>238   | 138<br>187   | 111<br>151   | 90<br>123    | 71<br>96    | 57<br>77   | 46<br>62   | 37<br>50   | 30<br>41   | 19<br>26   | 18<br>24   | 16<br>22   |            |
| 10                   | 5S<br>10S   | .134<br>.165  | 291<br>359                       | 278<br>340   | 258<br>318   | 244<br>301   | 239<br>294   | 236<br>290   | 232<br>286   | 227<br>279   | 223<br>275   | 208<br>256   | 173<br>213   | 138<br>168   | 110<br>135   | 89<br>110    | 70<br>86    | 58<br>69   | 45<br>56   | 37<br>45   | 30<br>37   | 19<br>24   | 17<br>21   | 16<br>19   |            |
| 12                   | 5S<br>10S   | .156<br>.180  | 286<br>330                       | 271<br>312   | 254<br>293   | 240<br>277   | 235<br>271   | 231<br>267   | 228<br>263   | 223<br>257   | 219<br>253   | 204<br>235   | 170<br>196   | 134<br>154   | 108<br>125   | 87<br>101    | 69<br>79    | 55<br>63   | 45<br>51   | 36<br>42   | 29<br>34   | 19<br>22   | 17<br>20   | 15<br>18   |            |
| 14                   | 5S<br>10S   | .156<br>.188  | 261<br>314                       | 246<br>297   | 231<br>276   | 218<br>263   | 214<br>258   | 211<br>254   | 207<br>250   | 203<br>244   | 200<br>241   | 186<br>224   | 154<br>186   | 122<br>147   | 98<br>118    | 80<br>96     | 62<br>75    | 50<br>60   | 41<br>49   | 33<br>39   | 27<br>32   | 17<br>21   | 16<br>19   | 14<br>17   |            |
| 16                   | 5S<br>10S   | .165<br>.188  | 241<br>275                       | 228<br>260   | 214<br>243   | 202<br>230   | 198<br>225   | 195<br>222   | 192<br>219   | 188<br>214   | 185<br>211   | 172<br>196   | 143<br>163   | 113<br>128   | 91<br>104    | 74<br>84     | 58<br>66    | 46<br>53   | 38<br>43   | 30<br>35   | 25<br>28   | 16<br>18   | 14<br>16   | 13<br>15   |            |
| 18                   | 5S<br>10S   | .165<br>.188  | 214<br>244                       | 203<br>231   | 190<br>216   | 180<br>205   | 176<br>200   | 173<br>197   | 171<br>194   | 167<br>190   | 164<br>187   | 153<br>174   | 127<br>145   | 100<br>114   | 81<br>92     | 65<br>75     | 51<br>58    | 41<br>47   | 33<br>38   | 27<br>31   | 22<br>25   | 14<br>16   | 13<br>15   | 12<br>13   |            |
| 20                   | 5S<br>10S   | .188<br>.218  | 220<br>255                       | 208<br>241   | 195<br>226   | 184<br>214   | 180<br>209   | 178<br>206   | 175<br>203   | 171<br>198   | 168<br>195   | 157<br>182   | 130<br>151   | 106<br>119   | 83<br>96     | 67<br>78     | 53<br>61    | 42<br>49   | 34<br>40   | 28<br>32   | 22<br>26   | 14<br>17   | 13<br>15   | 12<br>14   |            |
| 24                   | 5S<br>10S   | .218<br>.250  | 212<br>244                       | 201<br>230   | 188<br>216   | 178<br>204   | 174<br>200   | 172<br>197   | 169<br>194   | 165<br>190   | 163<br>187   | 151<br>174   | 126<br>144   | 99<br>114    | 80<br>92     | 65<br>74     | 51<br>58    | 41<br>47   | 33<br>38   | 27<br>31   | 22<br>25   | 14<br>16   | 13<br>15   | 11<br>13   |            |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.  
Allowable Working Pressures shown for each size reflect the minus 12½% manufacturers wall tolerance.

# STAINLESS STEEL WELDED PIPE

## TYPE 304 SCHEDULE 10S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 304 Schedule 10S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400   | 500   | 600   | 650   | 700   | 750   | 800   | 850   | 900   | 950   | 1000  | 1050  | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 |
|----------------------|-------------|---------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| MAX. STRESS          |             |               | 20000                            | 18700 | 17500 | 16400 | 16200 | 16000 | 15600 | 15200 | 14900 | 14600 | 14400 | 13800 | 12200 | 9700 | 7700 | 6000 | 4700 | 3700 | 2900 | 2300 | 1800 | 1400 |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |
|                      |             |               | ½                                | 10S   | .083  | 2767  | 2587  | 2421  | 2269  | 2241  | 2213  | 2158  | 2103  | 2061  | 2020  | 1992 | 1909 | 1688 | 1342 | 1065 | 830  | 650  | 512  | 401  |
| ¾                    | 10S         | .083          | 2213                             | 2069  | 1937  | 1815  | 1793  | 1771  | 1726  | 1682  | 1649  | 1616  | 1594  | 1527  | 1350  | 1073 | 852  | 664  | 520  | 409  | 321  | 255  | 199  | 155  |
| 1                    | 10S         | .109          | 2321                             | 2170  | 2031  | 1903  | 1880  | 1857  | 1810  | 1764  | 1729  | 1694  | 1671  | 1601  | 1416  | 1126 | 894  | 696  | 545  | 429  | 337  | 267  | 209  | 162  |
| 1¼                   | 10S         | .109          | 1839                             | 1719  | 1609  | 1508  | 1489  | 1471  | 1434  | 1397  | 1370  | 1342  | 1324  | 1269  | 1122  | 892  | 708  | 552  | 432  | 340  | 267  | 211  | 165  | 129  |
| 1½                   | 10S         | .109          | 1606                             | 1502  | 1406  | 1317  | 1301  | 1285  | 1253  | 1221  | 1197  | 1173  | 1157  | 1108  | 980   | 779  | 618  | 482  | 377  | 297  | 233  | 185  | 145  | 112  |
| 2                    | 10S         | .109          | 1265                             | 1202  | 1124  | 1054  | 1041  | 1028  | 102   | 977   | 957   | 938   | 925   | 887   | 784   | 623  | 495  | 386  | 302  | 238  | 166  | 148  | 116  | 90   |
| 2½                   | 10S         | .120          | 1169                             | 1093  | 1023  | 958   | 947   | 935   | 912   | 888   | 871   | 853   | 841   | 806   | 713   | 567  | 450  | 351  | 275  | 216  | 169  | 134  | 105  | 82   |
| 3                    | 10S         | .120          | 960                              | 898   | 840   | 787   | 778   | 768   | 749   | 730   | 715   | 701   | 691   | 662   | 586   | 466  | 370  | 288  | 226  | 178  | 139  | 110  | 86   | 67   |
| 3½                   | 10S         | .120          | 840                              | 785   | 735   | 689   | 680   | 672   | 655   | 638   | 626   | 613   | 605   | 580   | 512   | 407  | 323  | 252  | 197  | 155  | 122  | 97   | 76   | 59   |
| 4                    | 10S         | .120          | 747                              | 698   | 653   | 612   | 605   | 597   | 582   | 567   | 556   | 545   | 538   | 515   | 455   | 362  | 287  | 224  | 175  | 138  | 106  | 86   | 67   | 52   |
| 5                    | 10S         | .134          | 674                              | 631   | 590   | 553   | 548   | 540   | 526   | 513   | 502   | 492   | 486   | 465   | 411   | 327  | 260  | 202  | 158  | 125  | 98   | 78   | 61   | 47   |
| 6                    | 10S         | .134          | 566                              | 530   | 496   | 464   | 459   | 453   | 442   | 430   | 422   | 413   | 406   | 391   | 345   | 275  | 218  | 170  | 133  | 105  | 82   | 65   | 51   | 40   |
| 8                    | 10S         | .148          | 480                              | 449   | 420   | 394   | 389   | 384   | 375   | 365   | 358   | 351   | 346   | 332   | 293   | 233  | 185  | 144  | 113  | 89   | 70   | 55   | 43   | 34   |
| 10                   | 10S         | .165          | 430                              | 402   | 376   | 352   | 348   | 344   | 335   | 327   | 320   | 314   | 309   | 297   | 262   | 208  | 165  | 129  | 101  | 80   | 62   | 49   | 39   | 30   |
| 12                   | 10S         | .180          | 395                              | 370   | 346   | 324   | 320   | 316   | 308   | 300   | 294   | 289   | 285   | 273   | 241   | 192  | 152  | 119  | 93   | 73   | 57   | 45   | 36   | 28   |
| 14                   | 10S         | .188          | 376                              | 352   | 329   | 308   | 305   | 301   | 293   | 288   | 280   | 274   | 271   | 259   | 229   | 182  | 145  | 113  | 88   | 70   | 55   | 43   | 34   | 26   |
| 16                   | 10S         | .188          | 329                              | 308   | 268   | 270   | 266   | 263   | 257   | 250   | 245   | 240   | 237   | 227   | 201   | 160  | 127  | 99   | 77   | 61   | 48   | 38   | 30   | 23   |
| 18                   | 10S         | .188          | 292                              | 273   | 256   | 240   | 237   | 234   | 228   | 222   | 218   | 213   | 211   | 202   | 178   | 142  | 113  | 88   | 69   | 54   | 42   | 34   | 26   | 20   |
| 20                   | 10S         | .218          | 305                              | 285   | 267   | 250   | 247   | 244   | 238   | 232   | 227   | 223   | 220   | 211   | 186   | 148  | 118  | 92   | 72   | 56   | 44   | 35   | 27   | 21   |
| 24                   | 10S         | .250          | 292                              | 273   | 255   | 239   | 236   | 233   | 228   | 222   | 217   | 213   | 210   | 201   | 178   | 141  | 112  | 88   | 69   | 54   | 42   | 34   | 26   | 20   |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.

The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.

# STAINLESS STEEL WELDED PIPE

## TYPE 304L SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 304L Schedules 40S, 80S

| TEMPERATURE °F.      |             | - 425<br>to 300 | 400                              | 500   | 600   | 650   | 700   | 750   | 800   | 850   | 900   | 950  | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 |     |
|----------------------|-------------|-----------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| MAX. STRESS          |             | 16700           | 15800                            | 14800 | 14000 | 13700 | 13500 | 13300 | 13000 | 12800 | 11900 | 9900 | 7800 | 6300 | 5100 | 4000 | 3200 | 2600 | 2100 | 1700 | 1100 | 1000 | 900  |     |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL.   | ALLOWABLE WORKING PRESSURES PSIG |       |       |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |      |      |      |     |
|                      |             |                 | 1/2                              | 40S   | .109  | 3034  | 2870  | 2689  | 2543  | 2489  | 2453  | 2146 | 2362 | 2325 | 2162 | 1799 | 1417 | 1145 | 927  | 727  | 581  | 472  | 382  | 309 |
|                      | 80S         | .147            | 4092                             | 3871  | 3626  | 3430  | 3357  | 3308  | 3259  | 3185  | 3136  | 2916 | 2426 | 1911 | 1544 | 1250 | 980  | 784  | 637  | 515  | 417  | 270  | 245  | 221 |
| 3/4                  | 40S         | .113            | 2516                             | 2381  | 2230  | 2109  | 2064  | 2034  | 2004  | 1959  | 1929  | 1793 | 1492 | 1175 | 949  | 768  | 603  | 482  | 392  | 316  | 256  | 166  | 151  | 136 |
|                      | 80S         | .154            | 3429                             | 3244  | 3039  | 2875  | 2813  | 2772  | 2731  | 2669  | 2628  | 2443 | 2033 | 1602 | 1294 | 1047 | 821  | 657  | 534  | 431  | 349  | 226  | 205  | 185 |
| 1                    | 40S         | .133            | 2365                             | 2237  | 2096  | 1962  | 1940  | 1912  | 1863  | 1841  | 1812  | 1685 | 1402 | 1104 | 892  | 722  | 566  | 453  | 368  | 297  | 241  | 156  | 142  | 127 |
|                      | 80S         | .179            | 3183                             | 3011  | 2820  | 2668  | 2611  | 2573  | 2535  | 2477  | 2439  | 2268 | 1887 | 1486 | 1201 | 972  | 762  | 610  | 495  | 400  | 324  | 210  | 191  | 172 |
| 1 1/4                | 40S         | .140            | 1972                             | 1866  | 1747  | 1653  | 1618  | 1594  | 1570  | 1535  | 1511  | 1405 | 1169 | 921  | 744  | 602  | 472  | 376  | 307  | 248  | 201  | 130  | 118  | 106 |
|                      | 80S         | .191            | 2690                             | 2545  | 2384  | 2255  | 2207  | 2175  | 2142  | 2094  | 2062  | 1917 | 1595 | 1256 | 1015 | 822  | 644  | 515  | 419  | 338  | 274  | 177  | 161  | 145 |
| 1 1/2                | 40S         | .145            | 1784                             | 1688  | 1561  | 1496  | 1464  | 1442  | 1421  | 1389  | 1368  | 1271 | 1058 | 833  | 673  | 545  | 427  | 342  | 278  | 224  | 182  | 118  | 107  | 96  |
|                      | 80S         | .200            | 2461                             | 2328  | 2181  | 2063  | 2019  | 1989  | 1960  | 1916  | 1886  | 1754 | 1459 | 1149 | 928  | 752  | 589  | 472  | 383  | 309  | 251  | 162  | 147  | 133 |
| 2                    | 40S         | .154            | 1516                             | 1434  | 1344  | 1271  | 1244  | 1226  | 1207  | 1180  | 1162  | 1080 | 899  | 708  | 572  | 463  | 363  | 290  | 236  | 191  | 154  | 100  | 91   | 82  |
|                      | 80S         | .218            | 2146                             | 2030  | 1902  | 1799  | 1761  | 1735  | 1709  | 1671  | 1645  | 1529 | 1272 | 1002 | 810  | 655  | 514  | 411  | 334  | 270  | 218  | 141  | 129  | 116 |
| 2 1/2                | 40S         | .203            | 1651                             | 1562  | 1463  | 1384  | 1354  | 1335  | 1315  | 1285  | 1265  | 1176 | 979  | 771  | 623  | 504  | 395  | 316  | 257  | 208  | 168  | 109  | 99   | 89  |
|                      | 80S         | .276            | 2244                             | 2124  | 1989  | 1882  | 1841  | 1814  | 1788  | 1747  | 1720  | 1599 | 1331 | 1048 | 847  | 685  | 538  | 430  | 349  | 282  | 228  | 148  | 134  | 121 |
| 3                    | 40S         | .216            | 1443                             | 1365  | 1279  | 1210  | 1184  | 1166  | 1149  | 1123  | 1106  | 1028 | 855  | 674  | 544  | 441  | 348  | 276  | 225  | 181  | 147  | 95   | 86   | 78  |
|                      | 80S         | .300            | 2004                             | 1896  | 1776  | 1680  | 1644  | 1620  | 1596  | 1560  | 1536  | 1428 | 1188 | 938  | 756  | 612  | 480  | 384  | 312  | 252  | 204  | 132  | 120  | 108 |
| 3 1/2                | 40S         | .226            | 1321                             | 1250  | 1171  | 1107  | 1084  | 1068  | 1052  | 1028  | 1012  | 941  | 783  | 617  | 498  | 403  | 316  | 253  | 206  | 166  | 134  | 87   | 79   | 71  |
|                      | 80S         | .318            | 1859                             | 1759  | 1647  | 1558  | 1525  | 1503  | 1460  | 1447  | 1425  | 1324 | 1102 | 868  | 701  | 568  | 445  | 356  | 289  | 234  | 169  | 122  | 111  | 100 |
| 4                    | 40S         | .237            | 1231                             | 1165  | 1091  | 1032  | 1010  | 995   | 981   | 959   | 944   | 877  | 730  | 575  | 465  | 376  | 295  | 236  | 192  | 155  | 125  | 81   | 74   | 66  |
|                      | 80S         | .337            | 1751                             | 1657  | 1552  | 1468  | 1436  | 1415  | 1394  | 1363  | 1342  | 1248 | 1038 | 818  | 661  | 535  | 419  | 336  | 273  | 220  | 178  | 115  | 105  | 94  |
| 5                    | 40S         | .258            | 1084                             | 1026  | 961   | 909   | 890   | 877   | 864   | 844   | 831   | 773  | 643  | 506  | 409  | 331  | 260  | 208  | 169  | 136  | 110  | 71   | 65   | 58  |
|                      | 80S         | .375            | 1576                             | 1491  | 1397  | 1321  | 1293  | 1274  | 1255  | 1227  | 1208  | 1123 | 934  | 738  | 595  | 481  | 377  | 302  | 245  | 198  | 160  | 104  | 94   | 85  |
| 6                    | 40S         | .280            | 988                              | 935   | 876   | 828   | 811   | 799   | 787   | 769   | 757   | 704  | 586  | 462  | 373  | 302  | 237  | 189  | 154  | 124  | 101  | 65   | 59   | 53  |
|                      | 80S         | .432            | 1525                             | 1442  | 1351  | 1278  | 1251  | 1232  | 1214  | 1187  | 1169  | 1086 | 904  | 712  | 575  | 466  | 365  | 292  | 237  | 192  | 155  | 100  | 91   | 82  |
| 8                    | 40S         | .322            | 873                              | 826   | 774   | 732   | 716   | 706   | 695   | 679   | 669   | 622  | 517  | 408  | 329  | 267  | 209  | 167  | 136  | 110  | 89   | 57   | 52   | 47  |
|                      | 80S         | .500            | 1355                             | 1262  | 1201  | 1136  | 1112  | 1096  | 1079  | 1055  | 1039  | 966  | 803  | 633  | 511  | 414  | 325  | 260  | 211  | 170  | 138  | 89   | 81   | 73  |
| 10                   | 40S         | .385            | 794                              | 751   | 704   | 665   | 651   | 642   | 632   | 618   | 608   | 586  | 471  | 371  | 299  | 242  | 190  | 152  | 124  | 100  | 81   | 52   | 48   | 43  |
|                      | 80S         | .500            | 1087                             | 1029  | 984   | 912   | 892   | 879   | 866   | 847   | 833   | 775  | 645  | 508  | 410  | 332  | 260  | 208  | 169  | 137  | 111  | 72   | 65   | 59  |
| 12                   | 40S         | .375            | 688                              | 651   | 609   | 576   | 564   | 556   | 548   | 535   | 527   | 490  | 408  | 321  | 259  | 210  | 165  | 132  | 107  | 86   | 70   | 45   | 41   | 37  |
|                      | 80S         | .500            | 917                              | 867   | 813   | 769   | 752   | 741   | 730   | 714   | 703   | 653  | 544  | 428  | 346  | 280  | 220  | 176  | 143  | 115  | 93   | 60   | 55   | 49  |
| 14                   | 40S         | .375            | 626                              | 593   | 555   | 525   | 514   | 506   | 499   | 488   | 480   | 446  | 371  | 293  | 236  | 191  | 150  | 120  | 98   | 79   | 64   | 41   | 38   | 34  |
|                      | 80S         | .500            | 835                              | 790   | 740   | 700   | 685   | 675   | 665   | 650   | 640   | 595  | 495  | 390  | 315  | 255  | 200  | 160  | 130  | 105  | 85   | 55   | 50   | 45  |
| 16                   | 40S         | .375            | 548                              | 518   | 486   | 459   | 450   | 443   | 438   | 427   | 420   | 390  | 325  | 256  | 207  | 167  | 131  | 105  | 85   | 69   | 56   | 36   | 33   | 30  |
|                      | 80S         | .500            | 731                              | 691   | 648   | 613   | 599   | 591   | 582   | 569   | 560   | 521  | 433  | 341  | 276  | 223  | 175  | 140  | 114  | 92   | 74   | 48   | 44   | 39  |
| 18                   | 40S         | .375            | 487                              | 461   | 432   | 408   | 400   | 394   | 388   | 379   | 373   | 347  | 289  | 228  | 184  | 149  | 117  | 93   | 76   | 61   | 50   | 32   | 29   | 26  |
|                      | 80S         | .500            | 649                              | 614   | 576   | 544   | 533   | 525   | 517   | 506   | 498   | 463  | 385  | 303  | 245  | 198  | 156  | 124  | 101  | 82   | 66   | 43   | 39   | 35  |
| 20                   | 40S         | .375            | 438                              | 415   | 389   | 368   | 360   | 354   | 349   | 341   | 336   | 312  | 260  | 205  | 165  | 134  | 105  | 84   | 68   | 55   | 45   | 29   | 26   | 24  |
|                      | 80S         | .500            | 585                              | 553   | 518   | 490   | 480   | 473   | 466   | 455   | 448   | 417  | 347  | 273  | 221  | 179  | 140  | 112  | 91   | 74   | 60   | 39   | 35   | 32  |
| 24                   | 40S         | .375            | 365                              | 346   | 324   | 306   | 300   | 295   | 291   | 284   | 280   | 260  | 217  | 171  | 138  | 112  | 88   | 70   | 57   | 46   | 37   | 24   | 22   | 20  |
|                      | 80S         | .500            | 487                              | 461   | 432   | 408   | 400   | 394   | 388   | 379   | 373   | 347  | 289  | 228  | 184  | 149  | 117  | 93   | 76   | 61   | 50   | 32   | 29   | 26  |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.  
Allowable Working Pressures shown for each size reflect the minus 12½% manufacturers wall tolerance.

# STAINLESS STEEL WELDED PIPE

## TYPE 304 SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 304 Schedules 40S, 80S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400          | 500          | 600          | 650          | 700          | 750          | 800          | 850          | 900          | 950          | 1000         | 1050         | 1100         | 1150         | 1200         | 1250         | 1300         | 1350         | 1400        | 1450       | 1500       |            |
|----------------------|-------------|---------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|------------|------------|
| MAX. STRESS          |             |               | 20000                            | 18700        | 17500        | 16400        | 16200        | 16000        | 15600        | 15200        | 14900        | 14600        | 14400        | 13800        | 12200        | 9700         | 7700         | 6000         | 4700         | 3700         | 2900         | 2300        | 1800       | 1400       |            |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |             |            |            |            |
|                      |             |               | ½                                | 40S<br>80S   | .109<br>.147 | 3633<br>4900 | 3397<br>4582 | 3179<br>4288 | 2979<br>4018 | 2943<br>3969 | 2907<br>3920 | 2834<br>3822 | 2761<br>3724 | 2707<br>3651 | 2652<br>3577 | 2618<br>3528 | 2507<br>3381 | 2216<br>2989 | 1762<br>2377 | 1399<br>1887 | 1090<br>1470 | 854<br>1152 | 672<br>907 | 527<br>711 | 418<br>564 |
| ¾                    | 40S<br>80S  | .113<br>.154  | 3013<br>4107                     | 2617<br>3840 | 2637<br>3593 | 2471<br>3387 | 2441<br>3326 | 2411<br>3285 | 2350<br>3203 | 2290<br>3121 | 2245<br>3059 | 2200<br>2998 | 2170<br>2957 | 2079<br>2834 | 1838<br>2505 | 1461<br>1992 | 1160<br>1581 | 904<br>1232  | 708<br>965   | 557<br>760   | 437<br>595   | 347<br>472  | 271<br>370 | 211<br>287 |            |
| 1                    | 40S<br>80S  | .133<br>.179  | 2832<br>3811                     | 2648<br>3584 | 2478<br>3335 | 2322<br>3125 | 2294<br>3087 | 2266<br>3049 | 2209<br>2973 | 2152<br>2897 | 2110<br>2839 | 2067<br>2782 | 2039<br>2744 | 1954<br>2630 | 1727<br>2325 | 1373<br>1849 | 1090<br>1467 | 850<br>1143  | 666<br>898   | 524<br>705   | 411<br>553   | 326<br>438  | 255<br>343 | 198<br>267 |            |
| 1¼                   | 40S<br>80S  | .140<br>.191  | 2361<br>3222                     | 2208<br>3012 | 2066<br>2819 | 1936<br>2642 | 1913<br>2610 | 1889<br>2577 | 1842<br>2513 | 1795<br>2448 | 1759<br>2400 | 1724<br>2352 | 1700<br>2320 | 1629<br>2223 | 1440<br>1965 | 1145<br>1563 | 909<br>1240  | 708<br>967   | 555<br>757   | 437<br>596   | 342<br>467   | 272<br>370  | 213<br>290 | 165<br>226 |            |
| 1½                   | 40S<br>80S  | .145<br>.200  | 2137<br>2947                     | 1996<br>2758 | 1870<br>2579 | 1752<br>2417 | 1731<br>2387 | 1709<br>2358 | 1667<br>2299 | 1624<br>2240 | 1592<br>2196 | 1560<br>2152 | 1539<br>2122 | 1474<br>2034 | 1303<br>1798 | 1036<br>1429 | 823<br>1135  | 641<br>884   | 502<br>693   | 395<br>545   | 310<br>427   | 246<br>339  | 192<br>265 | 150<br>206 |            |
| 2                    | 40S<br>80S  | .154<br>.218  | 1816<br>2570                     | 1693<br>2403 | 1589<br>2249 | 1489<br>2107 | 1471<br>2082 | 1452<br>2058 | 1416<br>2005 | 1380<br>1953 | 1353<br>1915 | 1325<br>1876 | 1307<br>1850 | 1253<br>1773 | 1108<br>1588 | 881<br>1247  | 699<br>989   | 545<br>771   | 427<br>604   | 336<br>475   | 263<br>373   | 209<br>296  | 163<br>231 | 127<br>180 |            |
| 2½                   | 40S<br>80S  | .203<br>.276  | 1977<br>2888                     | 1849<br>2513 | 1730<br>2352 | 1621<br>2204 | 1601<br>2177 | 1582<br>2150 | 1542<br>2097 | 1503<br>2043 | 1473<br>2003 | 1443<br>1962 | 1423<br>1935 | 1384<br>1855 | 1206<br>1640 | 959<br>1304  | 761<br>1035  | 593<br>806   | 465<br>632   | 368<br>497   | 287<br>390   | 227<br>309  | 178<br>242 | 138<br>188 |            |
| 3                    | 40S<br>80S  | .216<br>.300  | 1728<br>2400                     | 1616<br>2244 | 1512<br>2100 | 1417<br>1988 | 1400<br>1944 | 1362<br>1920 | 1348<br>1872 | 1313<br>1824 | 1287<br>1788 | 1261<br>1752 | 1244<br>1728 | 1192<br>1658 | 1054<br>1464 | 838<br>1164  | 665<br>924   | 518<br>720   | 406<br>564   | 320<br>444   | 251<br>348   | 199<br>276  | 158<br>218 | 121<br>168 |            |
| 3½                   | 40S<br>80S  | .226<br>.318  | 1562<br>2226                     | 1479<br>2081 | 1364<br>1948 | 1297<br>1825 | 1261<br>1803 | 1266<br>1781 | 1234<br>1738 | 1202<br>1692 | 1179<br>1658 | 1155<br>1625 | 1139<br>1603 | 1092<br>1538 | 965<br>1358  | 767<br>1080  | 609<br>857   | 475<br>666   | 372<br>523   | 293<br>412   | 229<br>323   | 182<br>256  | 142<br>200 | 111<br>156 |            |
| 4                    | 40S<br>80S  | .237<br>.337  | 1475<br>2097                     | 1379<br>1961 | 1290<br>1835 | 1209<br>1719 | 1194<br>1698 | 1180<br>1678 | 1150<br>1636 | 1121<br>1594 | 1099<br>1562 | 1077<br>1531 | 1062<br>1510 | 1018<br>1447 | 900<br>1279  | 715<br>1017  | 588<br>807   | 442<br>629   | 347<br>493   | 273<br>388   | 214<br>304   | 170<br>241  | 133<br>169 | 103<br>147 |            |
| 5                    | 40S<br>80S  | .258<br>.375  | 1299<br>1667                     | 1214<br>1765 | 1136<br>1652 | 1065<br>1548 | 1052<br>1529 | 1039<br>1510 | 1013<br>1472 | 987<br>1434  | 967<br>1406  | 948<br>1378  | 935<br>1359  | 896<br>1302  | 792<br>1151  | 630<br>915   | 500<br>727   | 390<br>566   | 305<br>444   | 240<br>349   | 188<br>274   | 149<br>217  | 117<br>170 | 91<br>132  |            |
| 6                    | 40S<br>80S  | .280<br>.432  | 1183<br>1628                     | 1106<br>1707 | 1035<br>1596 | 970<br>1497  | 959<br>1479  | 947<br>1461  | 923<br>1424  | 899<br>1368  | 882<br>1360  | 884<br>1333  | 852<br>1315  | 817<br>1260  | 722<br>1114  | 574<br>886   | 456<br>703   | 355<br>546   | 278<br>429   | 219<br>338   | 172<br>265   | 136<br>210  | 107<br>164 | 83<br>128  |            |
| 8                    | 40S<br>80S  | .322<br>.500  | 1045<br>1623                     | 977<br>1518  | 915<br>1420  | 857<br>1331  | 847<br>1315  | 836<br>1299  | 815<br>1266  | 794<br>1234  | 779<br>1209  | 763<br>1185  | 753<br>1169  | 721<br>1120  | 638<br>990   | 507<br>787   | 402<br>625   | 314<br>487   | 246<br>381   | 193<br>300   | 152<br>235   | 120<br>187  | 94<br>146  | 73<br>114  |            |
| 10                   | 40S<br>80S  | .385<br>.500  | 951<br>1302                      | 889<br>1218  | 832<br>1140  | 780<br>1068  | 770<br>1055  | 761<br>1042  | 742<br>1016  | 723<br>990   | 708<br>970   | 694<br>951   | 685<br>938   | 658<br>899   | 580<br>794   | 461<br>632   | 386<br>501   | 285<br>391   | 223<br>306   | 176<br>241   | 138<br>189   | 109<br>150  | 86<br>117  | 67<br>91   |            |
| 12                   | 40S<br>80S  | .375<br>.500  | 824<br>1098                      | 770<br>1027  | 721<br>961   | 675<br>900   | 667<br>669   | 659<br>676   | 642<br>856   | 626<br>835   | 61<br>818    | 601<br>802   | 593<br>791   | 568<br>758   | 502<br>670   | 399<br>533   | 317<br>423   | 247<br>329   | 194<br>258   | 152<br>203   | 119<br>159   | 95<br>126   | 74<br>99   | 58<br>77   |            |
| 14                   | 40S<br>80S  | .375<br>.500  | 750<br>1000                      | 701<br>935   | 656<br>875   | 615<br>820   | 608<br>810   | 600<br>800   | 585<br>780   | 570<br>760   | 559<br>745   | 548<br>730   | 540<br>720   | 518<br>690   | 458<br>610   | 364<br>485   | 289<br>385   | 225<br>300   | 178<br>235   | 139<br>185   | 109<br>145   | 86<br>115   | 68<br>90   | 53<br>70   |            |
| 16                   | 40S<br>80S  | .375<br>.500  | 656<br>875                       | 614<br>818   | 574<br>766   | 538<br>718   | 532<br>709   | 525<br>700   | 512<br>683   | 499<br>665   | 489<br>652   | 479<br>639   | 473<br>630   | 453<br>604   | 400<br>534   | 318<br>424   | 253<br>337   | 197<br>263   | 154<br>206   | 121<br>162   | 95<br>127    | 75<br>101   | 59<br>79   | 46<br>61   |            |
| 18                   | 40S<br>80S  | .375<br>.500  | 583<br>778                       | 545<br>727   | 510<br>681   | 478<br>638   | 473<br>630   | 467<br>622   | 455<br>607   | 443<br>591   | 435<br>579   | 426<br>568   | 420<br>560   | 403<br>537   | 358<br>474   | 263<br>377   | 225<br>299   | 175<br>233   | 137<br>183   | 106<br>144   | 85<br>113    | 67<br>89    | 53<br>70   | 41<br>54   |            |
| 20                   | 40S<br>80S  | .375<br>.500  | 525<br>700                       | 491<br>655   | 459<br>613   | 431<br>574   | 425<br>587   | 420<br>560   | 410<br>548   | 399<br>532   | 391<br>522   | 383<br>511   | 378<br>504   | 362<br>483   | 320<br>427   | 255<br>340   | 202<br>270   | 158<br>210   | 123<br>165   | 97<br>130    | 76<br>102    | 60<br>81    | 47<br>63   | 37<br>49   |            |
| 24                   | 40S<br>80S  | .375<br>.500  | 438<br>583                       | 409<br>545   | 383<br>510   | 359<br>478   | 354<br>473   | 350<br>467   | 341<br>455   | 333<br>443   | 328<br>435   | 319<br>426   | 315<br>420   | 302<br>403   | 267<br>358   | 212<br>283   | 168<br>225   | 131<br>175   | 103<br>137   | 81<br>108    | 63<br>85     | 50<br>67    | 39<br>53   | 31<br>41   |            |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.  
The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.

# STAINLESS STEEL WELDED PIPE

## TYPE 316L SCHEDULES 5S, 10S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 316L Schedules 5S, 10S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400          | 500          | 600          | 650          | 700          | 750          | 800          | 850          | 900          | 950          | 1000         | 1050         | 1100         | 1150         | 1200         | 1250         | 1300        | 1350       | 1400       | 1450       | 1500       |            |
|----------------------|-------------|---------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|------------|------------|------------|------------|
| MAX. STRESS          |             |               | 16700                            | 15500        | 14400        | 13500        | 13200        | 12900        | 12600        | 12400        | 12100        | 11800        | 11500        | 11200        | 10800        | 10200        | 8800         | 6400         | 4700         | 3500        | 2500       | 1800       | 1300       | 1000       |            |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |             |            |            |            |            |            |
|                      |             |               | ½                                | 5S<br>10S    | .065<br>.083 | 1809<br>2310 | 1679<br>2144 | 1560<br>1992 | 1463<br>1888 | 1430<br>1826 | 1398<br>1785 | 1365<br>1743 | 1343<br>1715 | 1311<br>1674 | 1278<br>1632 | 1246<br>1591 | 1213<br>1549 | 1170<br>1494 | 1105<br>1411 | 953<br>1217 | 693<br>885 | 509<br>650 | 379<br>484 | 271<br>346 | 195<br>249 |
| ¾                    | 5S<br>10S   | .065<br>.083  | 1447<br>1848                     | 1343<br>1715 | 1248<br>1594 | 1170<br>1494 | 1144<br>1461 | 1118<br>1428 | 1092<br>1394 | 1075<br>1372 | 1049<br>1339 | 1023<br>1306 | 997<br>1273  | 971<br>1239  | 936<br>1195  | 884<br>1129  | 763<br>974   | 555<br>708   | 407<br>520   | 303<br>387  | 217<br>277 | 158<br>199 | 113<br>144 | 87<br>111  |            |
| 1                    | 5S<br>10S   | .065<br>.109  | 1156<br>1938                     | 1073<br>1799 | 997<br>1671  | 934<br>1587  | 913<br>1532  | 893<br>1497  | 872<br>1462  | 858<br>1439  | 837<br>1404  | 817<br>1389  | 796<br>1335  | 775<br>1300  | 747<br>1253  | 706<br>1184  | 609<br>1021  | 443<br>743   | 325<br>545   | 242<br>406  | 173<br>290 | 125<br>209 | 90<br>151  | 69<br>116  |            |
| 1¼                   | 5S<br>10S   | .065<br>.109  | 915<br>1535                      | 850<br>1425  | 789<br>1324  | 740<br>1241  | 724<br>1213  | 707<br>1186  | 691<br>1158  | 680<br>1140  | 663<br>1112  | 647<br>1085  | 630<br>1057  | 614<br>1030  | 592<br>993   | 559<br>938   | 482<br>809   | 351<br>588   | 258<br>432   | 192<br>322  | 137<br>230 | 55<br>165  | 71<br>120  | 55<br>92   |            |
| 1½                   | 5S<br>10S   | .065<br>.109  | 800<br>1341                      | 742<br>1245  | 690<br>1157  | 647<br>1084  | 632<br>1060  | 618<br>1038  | 603<br>1012  | 594<br>996   | 580<br>972   | 565<br>948   | 551<br>924   | 538<br>900   | 517<br>887   | 489<br>819   | 421<br>707   | 307<br>514   | 225<br>377   | 168<br>281  | 120<br>201 | 86<br>145  | 62<br>104  | 48<br>80   |            |
| 2                    | 5S<br>10S   | .065<br>.109  | 640<br>1073                      | 594<br>996   | 552<br>925   | 517<br>867   | 506<br>848   | 494<br>829   | 483<br>810   | 475<br>797   | 464<br>777   | 452<br>758   | 441<br>739   | 429<br>720   | 414<br>694   | 391<br>655   | 337<br>565   | 245<br>411   | 180<br>302   | 134<br>225  | 96<br>161  | 69<br>116  | 50<br>84   | 38<br>64   |            |
| 2½                   | 5S<br>10S   | .083<br>.120  | 675<br>976                       | 626<br>906   | 582<br>841   | 546<br>789   | 534<br>771   | 521<br>754   | 509<br>736   | 501<br>725   | 489<br>707   | 477<br>690   | 465<br>672   | 453<br>654   | 437<br>631   | 412<br>596   | 356<br>514   | 259<br>374   | 190<br>275   | 141<br>205  | 101<br>146 | 73<br>105  | 53<br>76   | 40<br>58   |            |
| 3                    | 5S<br>10S   | .083<br>.120  | 554<br>802                       | 515<br>744   | 478<br>691   | 448<br>648   | 438<br>634   | 428<br>619   | 418<br>605   | 412<br>595   | 402<br>581   | 392<br>566   | 382<br>552   | 372<br>538   | 359<br>518   | 339<br>490   | 292<br>422   | 212<br>307   | 156<br>226   | 116<br>168  | 83<br>120  | 60<br>86   | 43<br>62   | 33<br>48   |            |
| 3½                   | 5S<br>10S   | .083<br>.120  | 485<br>701                       | 450<br>651   | 418<br>605   | 392<br>567   | 383<br>554   | 375<br>542   | 366<br>529   | 360<br>521   | 352<br>506   | 343<br>496   | 334<br>483   | 325<br>470   | 314<br>454   | 296<br>428   | 256<br>370   | 186<br>269   | 137<br>197   | 102<br>147  | 73<br>105  | 52<br>76   | 38<br>55   | 29<br>42   |            |
| 4                    | 5S<br>10S   | .083<br>.120  | 431<br>623                       | 400<br>579   | 372<br>538   | 349<br>504   | 341<br>493   | 333<br>482   | 325<br>470   | 320<br>463   | 312<br>452   | 305<br>441   | 297<br>429   | 289<br>418   | 279<br>403   | 263<br>381   | 227<br>329   | 165<br>239   | 121<br>175   | 90<br>131   | 65<br>93   | 46<br>67   | 34<br>49   | 26<br>37   |            |
| 5                    | 5S<br>10S   | .109<br>.134  | 458<br>563                       | 425<br>523   | 395<br>486   | 370<br>455   | 362<br>445   | 354<br>435   | 346<br>425   | 340<br>418   | 332<br>408   | 324<br>398   | 315<br>388   | 307<br>378   | 296<br>364   | 280<br>344   | 241<br>297   | 176<br>216   | 129<br>158   | 96<br>118   | 69<br>84   | 49<br>61   | 36<br>44   | 27<br>34   |            |
| 6                    | 5S<br>10S   | .109<br>.134  | 385<br>473                       | 357<br>439   | 332<br>408   | 311<br>362   | 304<br>374   | 297<br>365   | 290<br>357   | 286<br>351   | 279<br>343   | 272<br>334   | 265<br>326   | 258<br>317   | 249<br>306   | 235<br>289   | 203<br>249   | 147<br>181   | 108<br>133   | 81<br>99    | 58<br>71   | 41<br>51   | 30<br>37   | 23<br>28   |            |
| 8                    | 5S<br>10S   | .109<br>.148  | 295<br>401                       | 274<br>372   | 255<br>346   | 239<br>324   | 234<br>317   | 228<br>310   | 223<br>303   | 219<br>298   | 214<br>291   | 209<br>263   | 203<br>276   | 198<br>269   | 191<br>259   | 180<br>245   | 158<br>211   | 113<br>154   | 83<br>113    | 62<br>84    | 44<br>60   | 32<br>43   | 23<br>31   | 18<br>24   |            |
| 10                   | 5S<br>10S   | .134<br>.165  | 291<br>359                       | 270<br>333   | 251<br>309   | 236<br>290   | 230<br>284   | 225<br>277   | 220<br>271   | 216<br>266   | 211<br>260   | 206<br>254   | 201<br>247   | 195<br>241   | 188<br>232   | 178<br>219   | 154<br>189   | 112<br>138   | 82<br>101    | 61<br>75    | 44<br>54   | 31<br>39   | 23<br>28   | 17<br>21   |            |
| 12                   | 5S<br>10S   | .156<br>.180  | 286<br>330                       | 266<br>308   | 247<br>285   | 231<br>267   | 226<br>261   | 221<br>255   | 216<br>249   | 212<br>245   | 207<br>239   | 202<br>233   | 197<br>227   | 192<br>221   | 185<br>213   | 175<br>202   | 151<br>174   | 110<br>126   | 81<br>93     | 60<br>69    | 43<br>49   | 31<br>36   | 22<br>26   | 17<br>20   |            |
| 14                   | 5S<br>10S   | .156<br>.188  | 261<br>314                       | 242<br>291   | 225<br>271   | 211<br>254   | 206<br>248   | 201<br>243   | 197<br>237   | 193<br>233   | 189<br>227   | 184<br>222   | 179<br>216   | 175<br>211   | 168<br>203   | 159<br>192   | 137<br>165   | 100<br>120   | 73<br>88     | 55<br>66    | 39<br>47   | 28<br>34   | 20<br>24   | 16<br>19   |            |
| 16                   | 5S<br>10S   | .165<br>.188  | 241<br>275                       | 224<br>255   | 208<br>237   | 195<br>222   | 191<br>217   | 186<br>212   | 182<br>207   | 179<br>204   | 175<br>199   | 170<br>194   | 168<br>189   | 162<br>184   | 156<br>178   | 147<br>168   | 127<br>145   | 92<br>105    | 68<br>77     | 51<br>58    | 36<br>41   | 26<br>30   | 19<br>21   | 14<br>16   |            |
| 18                   | 5S<br>10S   | .165<br>.188  | 214<br>244                       | 199<br>227   | 185<br>211   | 173<br>197   | 169<br>193   | 166<br>189   | 162<br>184   | 159<br>181   | 155<br>177   | 151<br>173   | 148<br>168   | 144<br>164   | 139<br>158   | 131<br>149   | 113<br>129   | 85<br>94     | 60<br>69     | 45<br>51    | 32<br>37   | 23<br>26   | 17<br>19   | 13<br>15   |            |
| 20                   | 5S<br>10S   | .188<br>.218  | 220<br>255                       | 204<br>237   | 190<br>220   | 178<br>206   | 174<br>201   | 170<br>197   | 166<br>192   | 163<br>189   | 159<br>185   | 155<br>180   | 151<br>175   | 147<br>171   | 142<br>165   | 134<br>156   | 116<br>134   | 84<br>96     | 62<br>72     | 46<br>53    | 33<br>38   | 24<br>27   | 17<br>20   | 13<br>15   |            |
| 24                   | 5S<br>10S   | .218<br>.250  | 212<br>244                       | 197<br>226   | 183<br>210   | 172<br>197   | 168<br>193   | 164<br>188   | 160<br>184   | 158<br>181   | 154<br>176   | 150<br>172   | 146<br>168   | 142<br>163   | 137<br>158   | 130<br>149   | 112<br>128   | 81<br>93     | 60<br>69     | 45<br>51    | 32<br>36   | 23<br>26   | 17<br>19   | 13<br>15   |            |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.  
Allowable Working Pressures shown for each size reflect the minus 12½% manufacturers wall tolerance.



# STAINLESS STEEL WELDED PIPE

## TYPE 316 SCHEDULE 10S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 316 Schedule 10S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400   | 500   | 600   | 650   | 700   | 750   | 800   | 850   | 900   | 950   | 1000  | 1050  | 1100  | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 |     |
|----------------------|-------------|---------------|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-----|
| MAX. STRESS          |             |               | 20000                            | 19300 | 17900 | 17000 | 16700 | 16300 | 16100 | 15900 | 15700 | 15500 | 15400 | 15300 | 14500 | 12400 | 9600 | 7400 | 5500 | 4100 | 3100 | 2300 | 1700 | 1300 |     |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |      |      |      |      |     |
|                      |             |               | ½                                | 10S   | .083  | 2767  | 2670  | 2476  | 2352  | 2310  | 2255  | 2227  | 2200  | 2172  | 2144  | 2130  | 2117 | 2006 | 1715 | 1356 | 1024 | 761  | 587  | 429  | 318 |
| ¾                    | 10S         | .083          | 2213                             | 2136  | 1981  | 1881  | 1848  | 1804  | 1782  | 1760  | 1737  | 1715  | 1704  | 1693  | 1605  | 1372  | 1085 | 819  | 609  | 454  | 343  | 255  | 188  | 144  |     |
| 1                    | 10S         | .109          | 2321                             | 2240  | 2077  | 1973  | 1938  | 1892  | 1888  | 1845  | 1822  | 1799  | 1787  | 1775  | 1683  | 1439  | 1137 | 859  | 638  | 476  | 360  | 267  | 197  | 151  |     |
| 1¼                   | 10S         | .109          | 1839                             | 1774  | 1646  | 1563  | 1535  | 1496  | 1480  | 1462  | 1443  | 1425  | 1416  | 1406  | 1333  | 1140  | 901  | 680  | 506  | 377  | 285  | 211  | 156  | 120  |     |
| 1½                   | 10S         | .109          | 1608                             | 1550  | 1438  | 1365  | 1341  | 1309  | 1293  | 1277  | 1261  | 1245  | 1237  | 1229  | 1165  | 996   | 787  | 594  | 442  | 329  | 249  | 185  | 137  | 104  |     |
| 2                    | 10S         | .109          | 1285                             | 1240  | 1150  | 1092  | 1073  | 1047  | 1034  | 1022  | 1009  | 996   | 969   | 983   | 932   | 797   | 630  | 475  | 353  | 263  | 199  | 148  | 109  | 84   |     |
| 2½                   | 10S         | .120          | 1169                             | 1128  | 1046  | 993   | 976   | 952   | 941   | 929   | 917   | 906   | 900   | 894   | 847   | 725   | 573  | 432  | 321  | 240  | 181  | 134  | 99   | 76   |     |
| 3                    | 10S         | .120          | 960                              | 926   | 859   | 816   | 802   | 782   | 773   | 763   | 754   | 744   | 739   | 734   | 696   | 595   | 470  | 355  | 264  | 197  | 149  | 110  | 82   | 62   |     |
| 3½                   | 10S         | .120          | 840                              | 811   | 752   | 714   | 701   | 685   | 676   | 668   | 659   | 651   | 647   | 643   | 609   | 521   | 412  | 311  | 231  | 172  | 130  | 97   | 71   | 55   |     |
| 4                    | 10S         | .120          | 747                              | 721   | 668   | 635   | 623   | 609   | 601   | 594   | 586   | 579   | 575   | 571   | 541   | 463   | 366  | 276  | 205  | 153  | 116  | 86   | 63   | 49   |     |
| 5                    | 10S         | .134          | 674                              | 651   | 604   | 573   | 563   | 550   | 543   | 538   | 529   | 523   | 519   | 516   | 489   | 418   | 330  | 250  | 185  | 138  | 105  | 78   | 57   | 44   |     |
| 6                    | 10S         | .134          | 566                              | 547   | 507   | 481   | 473   | 462   | 456   | 450   | 445   | 439   | 438   | 433   | 411   | 351   | 278  | 210  | 156  | 116  | 88   | 65   | 48   | 37   |     |
| 8                    | 10S         | .148          | 480                              | 464   | 430   | 408   | 401   | 392   | 387   | 382   | 377   | 372   | 370   | 368   | 348   | 298   | 235  | 178  | 132  | 96   | 74   | 55   | 41   | 31   |     |
| 10                   | 10S         | .165          | 430                              | 415   | 385   | 365   | 359   | 350   | 346   | 342   | 337   | 333   | 331   | 329   | 312   | 266   | 211  | 159  | 118  | 88   | 67   | 49   | 37   | 28   |     |
| 12                   | 10S         | .180          | 395                              | 381   | 354   | 336   | 330   | 322   | 318   | 314   | 310   | 306   | 304   | 302   | 287   | 245   | 194  | 148  | 109  | 81   | 61   | 45   | 34   | 26   |     |
| 14                   | 10S         | .188          | 376                              | 363   | 337   | 320   | 314   | 306   | 303   | 299   | 295   | 291   | 290   | 288   | 273   | 233   | 184  | 139  | 103  | 77   | 58   | 43   | 32   | 24   |     |
| 16                   | 10S         | .188          | 329                              | 317   | 294   | 260   | 275   | 268   | 265   | 262   | 258   | 255   | 253   | 252   | 239   | 204   | 161  | 122  | 90   | 67   | 51   | 38   | 28   | 21   |     |
| 18                   | 10S         | .188          | 292                              | 282   | 262   | 249   | 244   | 238   | 235   | 232   | 230   | 227   | 225   | 224   | 212   | 181   | 143  | 108  | 80   | 60   | 45   | 34   | 25   | 19   |     |
| 20                   | 10S         | .218          | 305                              | 295   | 273   | 259   | 255   | 249   | 246   | 243   | 240   | 237   | 235   | 233   | 221   | 189   | 150  | 113  | 84   | 63   | 47   | 35   | 26   | 20   |     |
| 24                   | 10S         | .250          | 292                              | 281   | 261   | 248   | 244   | 238   | 235   | 232   | 229   | 226   | 225   | 223   | 211   | 181   | 143  | 108  | 80   | 60   | 45   | 34   | 25   | 19   |     |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.

The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.





# STAINLESS STEEL WELDED PIPE

## TYPE 316L SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 316L Schedules 40S, 80S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400          | 500          | 600          | 650          | 700          | 750          | 800          | 850          | 900          | 950          | 1000         | 1050         | 1100         | 1150         | 1200         | 1250         | 1300         | 1350         | 1400        | 1450       | 1500       |            |
|----------------------|-------------|---------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|------------|------------|
| MAX. STRESS          |             |               | 16700                            | 15500        | 14400        | 13500        | 13200        | 12900        | 12600        | 12400        | 12100        | 11800        | 11500        | 11200        | 10800        | 10200        | 8800         | 6400         | 4700         | 3500         | 2500         | 1800        | 1300       | 1000       |            |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |             |            |            |            |
|                      |             |               | ½                                | 40S<br>80S   | .109<br>.147 | 3034<br>4092 | 2816<br>3796 | 2616<br>3528 | 2453<br>3306 | 2398<br>3234 | 2344<br>3161 | 2289<br>3067 | 2253<br>3038 | 2198<br>2965 | 2144<br>2891 | 2089<br>2816 | 2035<br>2744 | 1962<br>2646 | 1853<br>2499 | 1599<br>2158 | 1163<br>1568 | 854<br>1152 | 636<br>858 | 454<br>613 | 327<br>441 |
| ¾                    | 40S<br>80S  | .113<br>.154  | 2516<br>3429                     | 2335<br>3183 | 2170<br>2957 | 2034<br>2772 | 1989<br>2710 | 1944<br>2649 | 1898<br>2587 | 1888<br>2546 | 1823<br>2485 | 1778<br>2423 | 1733<br>2361 | 1687<br>2300 | 1627<br>2218 | 1537<br>2094 | 1326<br>1807 | 964<br>1314  | 706<br>965   | 527<br>719   | 377<br>513   | 271<br>370  | 196<br>267 | 151<br>205 |            |
| 1                    | 40S<br>80S  | .133<br>.179  | 2365<br>3183                     | 2195<br>2954 | 2039<br>2744 | 1912<br>2573 | 1869<br>2516 | 1827<br>2458 | 1784<br>2401 | 1756<br>2363 | 1713<br>2306 | 1671<br>2249 | 1628<br>2192 | 1586<br>2134 | 1529<br>2058 | 1444<br>1944 | 1246<br>1677 | 906<br>1220  | 666<br>896   | 496<br>667   | 354<br>476   | 255<br>343  | 184<br>248 | 142<br>191 |            |
| 1¼                   | 40S<br>80S  | .140<br>.191  | 1972<br>2690                     | 1830<br>2497 | 1700<br>2320 | 1594<br>2175 | 1559<br>2126 | 1523<br>2078 | 1488<br>2030 | 1464<br>1997 | 1429<br>1949 | 1393<br>1901 | 1358<br>1852 | 1322<br>1804 | 1275<br>1740 | 1204<br>1643 | 1039<br>1418 | 756<br>1031  | 555<br>757   | 413<br>564   | 295<br>403   | 213<br>290  | 153<br>209 | 118<br>161 |            |
| 1½                   | 40S<br>80S  | .145<br>.200  | 1784<br>2461                     | 1656<br>2284 | 1539<br>2122 | 1442<br>1969 | 1410<br>1945 | 1378<br>1901 | 1346<br>1857 | 1325<br>1827 | 1293<br>1763 | 1261<br>1739 | 1229<br>1695 | 1197<br>1651 | 1154<br>1592 | 1090<br>1503 | 940<br>1297  | 684<br>943   | 502<br>693   | 374<br>516   | 267<br>368   | 192<br>265  | 139<br>192 | 107<br>147 |            |
| 2                    | 40S<br>80S  | .154<br>.218  | 1516<br>2146                     | 1407<br>1992 | 1307<br>1850 | 1226<br>1735 | 1198<br>1696 | 1171<br>1658 | 1144<br>1619 | 1126<br>1593 | 1098<br>1555 | 1071<br>1516 | 1044<br>1478 | 1017<br>1439 | 980<br>1388  | 926<br>1311  | 799<br>1131  | 581<br>822   | 427<br>604   | 318<br>450   | 227<br>321   | 163<br>231  | 118<br>167 | 91<br>129  |            |
| 2½                   | 40S<br>80S  | .203<br>.276  | 1651<br>2244                     | 1532<br>2083 | 1423<br>1935 | 1335<br>1814 | 1305<br>1774 | 1275<br>1734 | 1246<br>1693 | 1226<br>1667 | 1196<br>1626 | 1166<br>1586 | 1137<br>1548 | 1107<br>1505 | 1068<br>1452 | 1008<br>1371 | 670<br>1183  | 633<br>860   | 465<br>632   | 346<br>470   | 247<br>336   | 178<br>242  | 129<br>175 | 99<br>134  |            |
| 3                    | 40S<br>80S  | .216<br>.300  | 1443<br>2004                     | 1339<br>1860 | 1244<br>1728 | 1166<br>1620 | 1140<br>1584 | 1115<br>1548 | 1069<br>1512 | 1071<br>1488 | 1045<br>1452 | 1020<br>1416 | 994<br>1380  | 968<br>1344  | 933<br>1296  | 881<br>1224  | 760<br>1056  | 553<br>766   | 406<br>564   | 302<br>420   | 216<br>300   | 156<br>216  | 112<br>156 | 86<br>120  |            |
| 3½                   | 40S<br>80S  | .226<br>.318  | 1321<br>1859                     | 1226<br>1725 | 1139<br>1603 | 1068<br>1503 | 1044<br>1469 | 1020<br>1438 | 997<br>1402  | 961<br>1380  | 957<br>1347  | 933<br>1313  | 910<br>1280  | 886<br>1247  | 854<br>1202  | 807<br>1135  | 696<br>979   | 506<br>712   | 372<br>523   | 277<br>390   | 198<br>278   | 142<br>200  | 103<br>145 | 79<br>111  |            |
| 4                    | 40S<br>80S  | .237<br>.337  | 1231<br>1751                     | 1143<br>1625 | 1062<br>1510 | 995<br>1415  | 973<br>1384  | 951<br>1352  | 929<br>1321  | 914<br>1300  | 892<br>1269  | 870<br>1237  | 848<br>1206  | 826<br>1174  | 796<br>1132  | 752<br>1069  | 649<br>923   | 472<br>671   | 347<br>493   | 258<br>367   | 184<br>262   | 133<br>189  | 96<br>138  | 74<br>105  |            |
| 5                    | 40S<br>80S  | .258<br>.375  | 1084<br>1576                     | 1006<br>1463 | 935<br>1359  | 877<br>1274  | 857<br>1248  | 838<br>1217  | 818<br>1189  | 805<br>1170  | 786<br>1142  | 766<br>1114  | 747<br>1085  | 727<br>1057  | 701<br>1019  | 662<br>963   | 571<br>830   | 416<br>604   | 305<br>444   | 227<br>330   | 162<br>236   | 117<br>170  | 84<br>123  | 65<br>94   |            |
| 6                    | 40S<br>80S  | .280<br>.432  | 988<br>1525                      | 917<br>1415  | 852<br>1315  | 799<br>1232  | 781<br>1205  | 763<br>1178  | 746<br>1150  | 734<br>1132  | 716<br>1105  | 698<br>1077  | 680<br>1050  | 663<br>1022  | 639<br>986   | 604<br>931   | 521<br>803   | 379<br>584   | 278<br>429   | 207<br>320   | 148<br>228   | 107<br>164  | 77<br>119  | 59<br>91   |            |
| 8                    | 40S<br>80S  | .322<br>.500  | 873<br>1355                      | 810<br>1258  | 753<br>1169  | 706<br>1096  | 690<br>1071  | 674<br>1047  | 659<br>1023  | 648<br>1006  | 632<br>962   | 617<br>958   | 601<br>933   | 585<br>909   | 564<br>877   | 533<br>826   | 460<br>714   | 335<br>519   | 246<br>381   | 183<br>284   | 131<br>203   | 94<br>146   | 68<br>106  | 52<br>81   |            |
| 10                   | 40S<br>80S  | .385<br>.500  | 794<br>1087                      | 737<br>1009  | 685<br>938   | 642<br>879   | 627<br>860   | 613<br>840   | 599<br>820   | 589<br>807   | 575<br>788   | 561<br>768   | 547<br>749   | 532<br>729   | 513<br>703   | 485<br>664   | 418<br>573   | 304<br>417   | 223<br>306   | 166<br>228   | 119<br>163   | 86<br>117   | 62<br>85   | 48<br>65   |            |
| 12                   | 40S<br>80S  | .375<br>.500  | 688<br>917                       | 638<br>851   | 593<br>791   | 556<br>741   | 544<br>725   | 531<br>708   | 519<br>692   | 511<br>681   | 498<br>664   | 486<br>648   | 474<br>631   | 461<br>615   | 445<br>593   | 420<br>560   | 362<br>483   | 264<br>351   | 194<br>258   | 144<br>192   | 103<br>137   | 74<br>99    | 54<br>71   | 41<br>55   |            |
| 14                   | 40S<br>80S  | .375<br>.500  | 626<br>835                       | 581<br>775   | 540<br>720   | 506<br>675   | 495<br>660   | 484<br>645   | 473<br>630   | 465<br>620   | 454<br>605   | 443<br>590   | 431<br>575   | 420<br>560   | 405<br>540   | 383<br>510   | 330<br>440   | 240<br>320   | 176<br>235   | 131<br>175   | 94<br>125    | 68<br>90    | 49<br>65   | 38<br>50   |            |
| 16                   | 40S<br>80S  | .375<br>.500  | 548<br>731                       | 509<br>678   | 473<br>630   | 443<br>591   | 433<br>576   | 423<br>564   | 413<br>551   | 407<br>543   | 397<br>529   | 387<br>516   | 377<br>503   | 368<br>490   | 354<br>473   | 335<br>446   | 289<br>385   | 210<br>260   | 154<br>206   | 115<br>153   | 82<br>109    | 59<br>79    | 43<br>57   | 33<br>44   |            |
| 18                   | 40S<br>80S  | .375<br>.500  | 487<br>649                       | 452<br>603   | 420<br>560   | 394<br>525   | 385<br>513   | 376<br>502   | 388<br>490   | 362<br>482   | 353<br>471   | 344<br>459   | 335<br>447   | 327<br>436   | 315<br>420   | 298<br>397   | 257<br>342   | 187<br>249   | 137<br>183   | 102<br>136   | 73<br>97     | 53<br>70    | 38<br>51   | 29<br>39   |            |
| 20                   | 40S<br>80S  | .375<br>.500  | 438<br>585                       | 407<br>543   | 378<br>504   | 354<br>473   | 347<br>462   | 339<br>452   | 331<br>441   | 326<br>434   | 318<br>424   | 310<br>413   | 302<br>403   | 294<br>392   | 284<br>378   | 268<br>357   | 231<br>306   | 168<br>224   | 123<br>165   | 92<br>123    | 66<br>88     | 47<br>63    | 34<br>46   | 26<br>35   |            |
| 24                   | 40S<br>80S  | .375<br>.500  | 365<br>487                       | 339<br>452   | 315<br>420   | 295<br>394   | 289<br>385   | 282<br>376   | 276<br>368   | 271<br>362   | 265<br>353   | 258<br>344   | 252<br>335   | 245<br>327   | 236<br>315   | 223<br>298   | 193<br>257   | 140<br>187   | 103<br>137   | 77<br>102    | 55<br>73     | 39<br>53    | 28<br>38   | 22<br>29   |            |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.  
Allowable Working Pressures shown for each size reflect the minus 12½% manufacturers wall tolerance.



# STAINLESS STEEL WELDED PIPE

## TYPE 316 SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

### ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

### TYPE 316 Schedules 40S, 80S

| TEMPERATURE °F.      |             |               | - 425<br>to 300                  | 400          | 500          | 600          | 650          | 700          | 750          | 800          | 850          | 900          | 950          | 1000         | 1050         | 1100         | 1150         | 1200         | 1250         | 1300         | 1350         | 1400        | 1450        | 1500       |            |
|----------------------|-------------|---------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|------------|------------|
| MAX. STRESS          |             |               | 20000                            | 19300        | 17900        | 17000        | 16700        | 16300        | 16100        | 15900        | 15700        | 15500        | 15400        | 15300        | 14500        | 12400        | 9800         | 7400         | 5500         | 4100         | 3100         | 2300        | 1700        | 1300       |            |
| NOM.<br>PIPE<br>SIZE | SCH.<br>NO. | NOM.<br>WALL. | ALLOWABLE WORKING PRESSURES PSIG |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |             |             |            |            |
|                      |             |               | ½                                | 40S<br>80S   | .109<br>.147 | 3633<br>4900 | 3506<br>4729 | 3252<br>4386 | 3088<br>4165 | 3034<br>4092 | 2961<br>3994 | 2925<br>3945 | 2889<br>3896 | 2652<br>3847 | 2816<br>3798 | 2798<br>3773 | 2780<br>3749 | 2634<br>3553 | 2253<br>3038 | 1780<br>2401 | 1344<br>1813 | 999<br>1348 | 745<br>1005 | 563<br>760 | 418<br>564 |
| ¾                    | 40S<br>80S  | .113<br>.154  | 3013<br>4107                     | 2908<br>3963 | 2697<br>3675 | 2561<br>3491 | 2516<br>3429 | 2456<br>3347 | 2426<br>3308 | 2396<br>3265 | 2365<br>3224 | 2335<br>3183 | 2320<br>3162 | 2305<br>3142 | 2185<br>2977 | 1868<br>2546 | 1477<br>2012 | 1115<br>1519 | 829<br>1129  | 618<br>842   | 467<br>637   | 347<br>472  | 256<br>349  | 196<br>267 |            |
| 1                    | 40S<br>80S  | .133<br>.179  | 2832<br>3811                     | 2733<br>3678 | 2535<br>3411 | 2407<br>3240 | 2365<br>3183 | 2308<br>3106 | 2280<br>3068 | 2251<br>3030 | 2223<br>2992 | 2195<br>2954 | 2161<br>2935 | 2166<br>2916 | 2053<br>2763 | 1756<br>2383 | 1368<br>1888 | 1048<br>1410 | 779<br>1048  | 581<br>781   | 439<br>591   | 326<br>438  | 241<br>324  | 184<br>248 |            |
| 1¼                   | 40S<br>80S  | .140<br>.191  | 2361<br>3222                     | 2279<br>3109 | 2113<br>2883 | 2007<br>2738 | 1972<br>2690 | 1925<br>2628 | 1901<br>2593 | 1877<br>2561 | 1854<br>2529 | 1830<br>2497 | 1818<br>2481 | 1807<br>2465 | 1712<br>2336 | 1464<br>1997 | 1157<br>1579 | 874<br>1192  | 649<br>886   | 484<br>660   | 366<br>499   | 272<br>370  | 201<br>274  | 153<br>209 |            |
| 1½                   | 40S<br>80S  | .145<br>.200  | 2137<br>2947                     | 2062<br>2844 | 1912<br>2638 | 1816<br>2505 | 1784<br>2461 | 1742<br>2402 | 1720<br>2373 | 1699<br>2343 | 1677<br>2314 | 1656<br>2284 | 1645<br>2269 | 1635<br>2255 | 1549<br>2137 | 1325<br>1827 | 1047<br>1444 | 791<br>1091  | 588<br>811   | 438<br>604   | 331<br>457   | 246<br>339  | 182<br>251  | 139<br>192 |            |
| 2                    | 40S<br>80S  | .154<br>.218  | 1816<br>2570                     | 1752<br>2480 | 1625<br>2300 | 1543<br>2185 | 1516<br>2146 | 1480<br>2095 | 1462<br>2069 | 1443<br>2043 | 1425<br>2018 | 1407<br>1992 | 1398<br>1979 | 1389<br>1966 | 1316<br>1863 | 1126<br>1593 | 890<br>1259  | 672<br>951   | 499<br>707   | 372<br>527   | 281<br>398   | 209<br>296  | 154<br>218  | 118<br>167 |            |
| 2½                   | 40S<br>80S  | .203<br>.276  | 1977<br>2688                     | 1908<br>2594 | 1769<br>2406 | 1680<br>2285 | 1651<br>2244 | 1611<br>2191 | 1592<br>2164 | 1572<br>2137 | 1552<br>2110 | 1532<br>2083 | 1522<br>2070 | 1512<br>2056 | 1433<br>1949 | 1226<br>1667 | 969<br>1317  | 732<br>995   | 544<br>739   | 405<br>551   | 306<br>417   | 227<br>309  | 168<br>228  | 129<br>175 |            |
| 3                    | 40S<br>80S  | .216<br>.300  | 1728<br>2400                     | 1688<br>2316 | 1547<br>2148 | 1469<br>2040 | 1443<br>2004 | 1408<br>1956 | 1391<br>1932 | 1374<br>1908 | 1356<br>1884 | 1339<br>1860 | 1331<br>1848 | 1322<br>1836 | 1253<br>1740 | 1071<br>1488 | 847<br>1176  | 639<br>888   | 475<br>660   | 354<br>492   | 266<br>372   | 199<br>276  | 147<br>204  | 112<br>156 |            |
| 3½                   | 40S<br>80S  | .226<br>.318  | 1582<br>2226                     | 1527<br>2146 | 1416<br>1992 | 1345<br>1892 | 1321<br>1859 | 1289<br>1814 | 1274<br>1792 | 1258<br>1770 | 1242<br>1747 | 1226<br>1725 | 1218<br>1714 | 1210<br>1703 | 1147<br>1614 | 981<br>1360  | 775<br>1091  | 585<br>824   | 435<br>612   | 324<br>456   | 245<br>345   | 182<br>256  | 134<br>189  | 103<br>145 |            |
| 4                    | 40S<br>80S  | .237<br>.337  | 1475<br>2097                     | 1423<br>2023 | 1320<br>1877 | 1253<br>1782 | 1231<br>1751 | 1202<br>1709 | 1187<br>1688 | 1172<br>1667 | 1158<br>1646 | 1143<br>1625 | 1135<br>1615 | 1128<br>1604 | 1069<br>1520 | 914<br>1300  | 723<br>1027  | 546<br>776   | 406<br>577   | 302<br>430   | 229<br>325   | 170<br>241  | 125<br>178  | 96<br>136  |            |
| 5                    | 40S<br>80S  | .258<br>.375  | 1299<br>1887                     | 1253<br>1821 | 1162<br>1689 | 1104<br>1604 | 1084<br>1576 | 1058<br>1538 | 1045<br>1519 | 1032<br>1501 | 1019<br>1482 | 1006<br>1463 | 1000<br>1453 | 993<br>1444  | 941<br>1368  | 805<br>1170  | 636<br>925   | 480<br>698   | 357<br>519   | 266<br>387   | 201<br>293   | 149<br>217  | 110<br>160  | 84<br>123  |            |
| 6                    | 40S<br>80S  | .280<br>.432  | 1183<br>1826                     | 1142<br>1762 | 1059<br>1634 | 1006<br>1552 | 988<br>1525  | 964<br>1488  | 953<br>1470  | 941<br>1452  | 929<br>1433  | 917<br>1415  | 911<br>1406  | 905<br>1397  | 858<br>1324  | 734<br>1132  | 580<br>895   | 438<br>676   | 325<br>502   | 243<br>374   | 183<br>283   | 138<br>210  | 101<br>155  | 77<br>119  |            |
| 8                    | 40S<br>80S  | .322<br>.500  | 1045<br>1623                     | 1009<br>1566 | 936<br>1453  | 889<br>1380  | 873<br>1355  | 852<br>1323  | 841<br>1307  | 831<br>1290  | 821<br>1274  | 810<br>1258  | 805<br>1250  | 800<br>1242  | 758<br>1177  | 648<br>1006  | 512<br>795   | 387<br>601   | 287<br>446   | 214<br>333   | 162<br>252   | 120<br>187  | 89<br>138   | 68<br>106  |            |
| 10                   | 40S<br>80S  | .365<br>.500  | 951<br>1302                      | 917<br>1257  | 851<br>1166  | 808<br>1107  | 794<br>1087  | 775<br>1061  | 765<br>1048  | 758<br>1035  | 746<br>1022  | 737<br>1009  | 732<br>1003  | 727<br>996   | 689<br>944   | 589<br>807   | 466<br>638   | 352<br>482   | 261<br>358   | 195<br>287   | 147<br>202   | 109<br>150  | 81<br>111   | 62<br>85   |            |
| 12                   | 40S<br>80S  | .375<br>.500  | 824<br>1098                      | 795<br>1060  | 737<br>983   | 700<br>933   | 688<br>917   | 671<br>895   | 663<br>884   | 655<br>873   | 646<br>862   | 638<br>851   | 634<br>845   | 630<br>840   | 597<br>796   | 511<br>681   | 404<br>538   | 305<br>406   | 226<br>302   | 169<br>225   | 128<br>170   | 95<br>126   | 70<br>93    | 54<br>71   |            |
| 14                   | 40S<br>80S  | .375<br>.500  | 750<br>1000                      | 724<br>965   | 671<br>895   | 638<br>850   | 626<br>835   | 611<br>815   | 604<br>805   | 596<br>795   | 589<br>785   | 581<br>775   | 578<br>770   | 574<br>765   | 544<br>725   | 465<br>620   | 366<br>490   | 278<br>370   | 206<br>275   | 154<br>205   | 116<br>155   | 86<br>115   | 64<br>85    | 49<br>65   |            |
| 16                   | 40S<br>80S  | .375<br>.500  | 656<br>875                       | 633<br>844   | 587<br>783   | 558<br>744   | 548<br>731   | 535<br>713   | 528<br>704   | 522<br>696   | 515<br>687   | 509<br>678   | 505<br>674   | 502<br>669   | 476<br>634   | 407<br>543   | 322<br>429   | 243<br>324   | 180<br>241   | 135<br>179   | 102<br>136   | 75<br>101   | 56<br>74    | 43<br>57   |            |
| 18                   | 40S<br>80S  | .375<br>.500  | 583<br>778                       | 563<br>751   | 522<br>696   | 496<br>661   | 487<br>649   | 475<br>634   | 470<br>626   | 464<br>618   | 458<br>611   | 452<br>603   | 449<br>599   | 446<br>595   | 423<br>584   | 362<br>482   | 266<br>381   | 216<br>288   | 160<br>214   | 120<br>159   | 90<br>121    | 67<br>89    | 50<br>68    | 38<br>51   |            |
| 20                   | 40S<br>80S  | .375<br>.500  | 525<br>700                       | 507<br>676   | 470<br>627   | 446<br>595   | 438<br>585   | 428<br>571   | 423<br>564   | 417<br>557   | 412<br>550   | 407<br>543   | 404<br>539   | 402<br>536   | 381<br>508   | 326<br>434   | 257<br>343   | 194<br>259   | 144<br>193   | 108<br>144   | 81<br>109    | 60<br>81    | 45<br>60    | 34<br>46   |            |
| 24                   | 40S<br>80S  | .375<br>.500  | 438<br>583                       | 422<br>563   | 392<br>522   | 372<br>496   | 365<br>487   | 357<br>475   | 352<br>470   | 348<br>464   | 343<br>458   | 339<br>452   | 337<br>449   | 335<br>446   | 317<br>423   | 271<br>362   | 214<br>286   | 162<br>216   | 120<br>160   | 90<br>120    | 68<br>90     | 50<br>67    | 37<br>50    | 28<br>38   |            |

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.

The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.

