

# PYPLOK® Standard Pressure Ratings

## DM 20 Series – NPS Pipe

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                   |     |                   |     |
|----------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                         | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                  | PSI               | bar | PSI               | bar |
| 1/4"                             | 6000              | 415 | 8000              | 552 |
| 3/8"                             | 6000              | 415 | 8000              | 552 |
| 1/2"                             | 5900              | 407 | 7866              | 543 |
| 3/4"                             | 5800              | 400 | 7733              | 533 |
| 1"                               | 5700              | 393 | 7600              | 524 |
| 1-1/4"                           | 5650              | 390 | 7533              | 520 |
| 1-1/2"                           | 5650              | 390 | 7533              | 520 |
| 2"                               | 4800              | 330 | 6400              | 441 |
| 3"                               | 2625              | 180 | 3500              | 240 |

| Carbon Steel Pressure Ratings |                   |     |                   |     |
|-------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                      | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                               | PSI               | bar | PSI               | bar |
| 1/4"                          | 5000              | 345 | 6667              | 460 |
| 3/8"                          | 5000              | 345 | 6667              | 460 |
| 1/2"                          | 4917              | 339 | 6555              | 452 |
| 3/4"                          | 4833              | 333 | 6444              | 444 |
| 1"                            | 4750              | 328 | 6333              | 437 |
| 1-1/4"                        | 4710              | 325 | 6278              | 433 |
| 1-1/2"                        | 4710              | 325 | 6278              | 433 |
| 2"                            | 4000              | 276 | 5333              | 368 |
| 3"                            | 2625              | 180 | 3500              | 240 |

\*Stainless Steel 316/316L, 2205 Duplex & 2507 Super Duplex pressure ratings

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                       | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 1/4"                           | 3896              | 269 | 5195              | 358 |
| 3/8"                           | 3896              | 269 | 5195              | 358 |
| 1/2"                           | 3831              | 264 | 5108              | 352 |
| 3/4"                           | 3766              | 260 | 5022              | 346 |
| 1"                             | 3701              | 255 | 4935              | 340 |
| 1-1/4"                         | 3669              | 253 | 4892              | 337 |
| 1-1/2"                         | 3669              | 253 | 4892              | 337 |
| 2"                             | 3117              | 215 | 4156              | 287 |

| Titanium Pressure Ratings |                   |     |                   |     |
|---------------------------|-------------------|-----|-------------------|-----|
| Size NPS                  | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                           | PSI               | bar | PSI               | bar |
| 1/4"                      | 750               | 50  | 1000              | 70  |
| 3/8"                      | 750               | 50  | 1000              | 70  |
| 1/2"                      | 750               | 50  | 1000              | 70  |
| 3/4"                      | 750               | 50  | 1000              | 70  |
| 1"                        | 750               | 50  | 1000              | 70  |
| 1-1/4"                    | 750               | 50  | 1000              | 70  |
| 1-1/2"                    | 750               | 50  | 1000              | 70  |
| 2"                        | 750               | 50  | 1000              | 70  |

Introduction

Technical Information

DM 20 – NPS Pipe

DM 60 – OD Tube

DM 80 – Metric Tube

DM Series Thread Adapter

DM80 – Metric JS Tube

DP 40N – NPS Low Pressure

DP 40M – Metric Low Pressure

PYPLOK® Tooling

Installation Procedures

Appendix

# PYPLOK<sup>®</sup> Pressure Ratings According to ASME B31.1 & ASME B31.3

## DM 20 Series – NPS Pipe

Pressure Ratings are based on system temperatures that are listed below and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK<sup>®</sup> Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                  |       |       |       |
|----------------------------------|------------------|-------|-------|-------|
| Size NPS                         | ASME B31.1 (PSI) |       |       |       |
|                                  | -20°F to 100°F   | 200°F | 300°F | 400°F |
| 1/4"                             | 5800             | 5800  | 5800  | 5600  |
| 3/8"                             | 5600             | 5600  | 5600  | 5400  |
| 1/2"                             | 5400             | 5400  | 5400  | 5200  |
| 3/4"                             | 5100             | 5100  | 5100  | 5000  |
| 1"                               | 4800             | 4800  | 4800  | 4700  |
| 1-1/4"                           | 4400             | 4400  | 4400  | 4200  |
| 1-1/2"                           | 4200             | 4200  | 4200  | 4000  |
| 2"                               | 3700             | 3700  | 3700  | 3600  |

| Carbon Steel Pressure Ratings |                  |       |       |       |
|-------------------------------|------------------|-------|-------|-------|
| Size NPS                      | ASME B31.1 (PSI) |       |       |       |
|                               | -20°F to 100°F   | 200°F | 300°F | 400°F |
| 1/4"                          | 5200             | 5200  | 5200  | 5200  |
| 3/8"                          | 5000             | 5000  | 5000  | 5000  |
| 1/2"                          | 4900             | 4900  | 4900  | 4900  |
| 3/4"                          | 4700             | 4700  | 4700  | 4700  |
| 1"                            | 4400             | 4400  | 4400  | 4400  |
| 1-1/4"                        | 4100             | 4100  | 4100  | 4100  |
| 1-1/2"                        | 3900             | 3900  | 3900  | 3900  |
| 2"                            | 3500             | 3500  | 3500  | 3500  |

| Stainless Steel Pressure Ratings |                  |       |       |       |
|----------------------------------|------------------|-------|-------|-------|
| Size NPS                         | ASME B31.3 (PSI) |       |       |       |
|                                  | -20°F to 100°F   | 200°F | 300°F | 400°F |
| 1/4"                             | 5800             | 5800  | 5800  | 5600  |
| 3/8"                             | 5600             | 5600  | 5600  | 5400  |
| 1/2"                             | 5400             | 5400  | 5400  | 5200  |
| 3/4"                             | 5100             | 5100  | 5100  | 5000  |
| 1"                               | 4800             | 4800  | 4800  | 4700  |
| 1-1/4"                           | 4400             | 4400  | 4400  | 4200  |
| 1-1/2"                           | 4200             | 4200  | 4200  | 4000  |
| 2"                               | 3700             | 3700  | 3700  | 3600  |

| Carbon Steel Pressure Ratings |                  |       |       |       |
|-------------------------------|------------------|-------|-------|-------|
| Size NPS                      | ASME B31.3 (PSI) |       |       |       |
|                               | -20°F to 100°F   | 200°F | 300°F | 400°F |
| 1/4"                          | 5200             | 4900  | 4700  | 4500  |
| 3/8"                          | 5000             | 4800  | 4600  | 4400  |
| 1/2"                          | 4900             | 4600  | 4400  | 4300  |
| 3/4"                          | 4700             | 4400  | 4200  | 4100  |
| 1"                            | 4400             | 4200  | 4000  | 3900  |
| 1-1/4"                        | 4100             | 3900  | 3700  | 3600  |
| 1-1/2"                        | 3900             | 3700  | 3500  | 3400  |
| 2"                            | 3500             | 3300  | 3100  | 3000  |

# PYPLOK® Standard Pressure Ratings

## DM 60 Series – OD Tube

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                   |     |                   |     |
|----------------------------------|-------------------|-----|-------------------|-----|
| Size OD                          | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                  | PSI               | bar | PSI               | bar |
| 1/4"                             | 7000              | 483 | 9333              | 644 |
| 3/8"                             | 5800              | 400 | 7733              | 533 |
| 1/2"                             | 6100              | 420 | 8133              | 561 |
| 5/8"                             | 6100              | 420 | 8133              | 561 |
| 3/4"                             | 6000              | 414 | 8000              | 552 |
| 1"                               | 5800              | 400 | 7733              | 533 |
| 1-1/4"                           | 5800              | 400 | 7733              | 533 |
| 1-1/2"                           | 5650              | 390 | 7533              | 520 |
| 2"                               | 4800              | 330 | 6400              | 441 |

\*Stainless Steel 316/316L, 2205 Duplex & 2507 Super Duplex pressure ratings.

| Carbon Steel Pressure Ratings |                   |     |                   |     |
|-------------------------------|-------------------|-----|-------------------|-----|
| Size OD                       | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                               | PSI               | bar | PSI               | bar |
| 1/4"                          | 5833              | 402 | 7778              | 536 |
| 3/8"                          | 4833              | 333 | 6444              | 444 |
| 1/2"                          | 5100              | 350 | 6778              | 467 |
| 5/8"                          | 5100              | 350 | 6778              | 467 |
| 3/4"                          | 5000              | 345 | 6667              | 460 |
| 1"                            | 4833              | 333 | 6444              | 444 |
| 1-1/4"                        | 4833              | 333 | 6444              | 444 |
| 1-1/2"                        | 4710              | 325 | 6278              | 433 |
| 2"                            | 4000              | 275 | 5333              | 368 |

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| Size OD                        | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 1/4"                           | 4545              | 313 | 6060              | 418 |
| 3/8"                           | 3766              | 260 | 5022              | 346 |
| 1/2"                           | 3961              | 273 | 5281              | 364 |
| 5/8"                           | 3961              | 273 | 5281              | 364 |
| 3/4"                           | 3896              | 269 | 5195              | 358 |
| 1"                             | 3766              | 260 | 5022              | 346 |
| 1-1/4"                         | 3766              | 260 | 5022              | 346 |
| 1-1/2"                         | 3669              | 253 | 4892              | 337 |
| 2"                             | 3117              | 215 | 4156              | 287 |

# PYPLOK® Standard Pressure Ratings

## DM 80 Series – Metric Tube

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                   |     |                   |     |
|----------------------------------|-------------------|-----|-------------------|-----|
| Size OD (mm)                     | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                  | PSI               | bar | PSI               | bar |
| 6                                | 6500              | 450 | 8665              | 600 |
| 8                                | 6200              | 430 | 8265              | 570 |
| 10                               | 6000              | 415 | 8000              | 550 |
| 12                               | 5800              | 400 | 7735              | 535 |
| 15                               | 5800              | 400 | 7735              | 535 |
| 16                               | 5800              | 400 | 7735              | 535 |
| 18                               | 4500              | 310 | 6000              | 415 |
| 20                               | 5650              | 390 | 7535              | 520 |
| 22                               | 4425              | 305 | 5900              | 405 |
| 25                               | 5650              | 390 | 7535              | 520 |
| 28                               | 4350              | 300 | 5800              | 400 |
| 30                               | 5650              | 390 | 7535              | 520 |
| 35                               | 4275              | 295 | 5700              | 395 |
| 38                               | 5650              | 390 | 7535              | 520 |
| 42                               | 5650              | 390 | 7535              | 520 |
| 50                               | 5100              | 350 | 6800              | 470 |
| 60                               | 4800              | 330 | 6400              | 440 |

| Carbon Steel Pressure Ratings |                   |     |                   |     |
|-------------------------------|-------------------|-----|-------------------|-----|
| Size OD (mm)                  | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                               | PSI               | bar | PSI               | bar |
| 6                             | 5420              | 375 | 7225              | 500 |
| 8                             | 5170              | 355 | 6890              | 475 |
| 10                            | 5000              | 345 | 6670              | 460 |
| 12                            | 4835              | 335 | 6445              | 445 |
| 15                            | 4835              | 335 | 6445              | 445 |
| 16                            | 4835              | 335 | 6445              | 445 |
| 18                            | 3750              | 260 | 5000              | 345 |
| 20                            | 4710              | 325 | 6280              | 435 |
| 22                            | 3690              | 255 | 4920              | 340 |
| 25                            | 4710              | 325 | 6280              | 435 |
| 28                            | 3625              | 250 | 4835              | 335 |
| 30                            | 4710              | 325 | 6280              | 435 |
| 35                            | 3560              | 245 | 4750              | 325 |
| 38                            | 4710              | 325 | 6280              | 435 |
| 42                            | 4710              | 325 | 6280              | 435 |
| 50                            | 4250              | 295 | 5670              | 390 |
| 60                            | 4000              | 275 | 5335              | 370 |

\*Stainless Steel 316/316L, 2205 Duplex & 2507 Super Duplex pressure ratings.

# PYPLOK® Standard Pressure Ratings

## DM 80 Series – Metric Tube

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| Size OD (mm)                   | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 6                              | 4220              | 290 | 5630              | 390 |
| 8                              | 4025              | 280 | 5370              | 370 |
| 10                             | 3895              | 270 | 5195              | 360 |
| 12                             | 3765              | 260 | 5025              | 345 |
| 16                             | 3765              | 260 | 5025              | 345 |
| 20                             | 3670              | 255 | 4895              | 335 |
| 25                             | 3670              | 255 | 4895              | 335 |
| 30                             | 3670              | 255 | 4895              | 335 |
| 38                             | 3670              | 255 | 4895              | 335 |
| 42                             | 3670              | 255 | 4895              | 335 |
| 50                             | 3315              | 230 | 4415              | 305 |
| 60                             | 3120              | 215 | 4155              | 285 |

# PYPLOK® Standard Pressure Ratings

## DM 80 Series – JIS Metric Tube

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                   |     |                   |     |
|----------------------------------|-------------------|-----|-------------------|-----|
| JIS Size                         | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                  | PSI               | bar | PSI               | bar |
| 06A                              | 3750              | 260 | 5000              | 347 |
| 08A                              | 3750              | 260 | 5000              | 347 |
| 10A                              | 3750              | 260 | 5000              | 347 |
| 15A                              | 3690              | 255 | 4920              | 340 |
| 20A                              | 3625              | 250 | 4833              | 333 |
| 25A                              | 3560              | 245 | 4747              | 327 |
| 32A                              | 3750              | 260 | 5000              | 347 |
| 40A                              | 3750              | 260 | 5000              | 347 |
| 50A                              | 3750              | 260 | 5000              | 347 |

| Carbon Steel Pressure Ratings |                   |     |                   |     |
|-------------------------------|-------------------|-----|-------------------|-----|
| JIS Size                      | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                               | PSI               | bar | PSI               | bar |
| 06A                           | 3750              | 260 | 5000              | 347 |
| 08A                           | 3750              | 260 | 5000              | 347 |
| 10A                           | 3750              | 260 | 5000              | 347 |
| 15A                           | 3690              | 255 | 4920              | 340 |
| 20A                           | 3625              | 250 | 4833              | 333 |
| 25A                           | 3560              | 245 | 4747              | 327 |
| 32A                           | 3750              | 260 | 5000              | 347 |
| 40A                           | 3750              | 260 | 5000              | 347 |
| 50A                           | 3750              | 260 | 5000              | 347 |

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| JIS Size                       | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 06A                            | 3750              | 260 | 5000              | 347 |
| 08A                            | 3750              | 260 | 5000              | 347 |
| 10A                            | 3750              | 260 | 5000              | 347 |
| 15A                            | 3670              | 253 | 4893              | 337 |
| 20A                            | 3625              | 250 | 4833              | 333 |
| 25A                            | 3670              | 253 | 4893              | 337 |
| 32A                            | 3315              | 230 | 4420              | 307 |
| 40A                            | 3315              | 230 | 4420              | 307 |
| 50A                            | 3120              | 215 | 4160              | 287 |

# PYPLOK® Standard Pressure Ratings

## DP 40N Series – NPS Low Pressure

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Stainless Steel Pressure Ratings |                   |     |                   |     |
|----------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                         | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                  | PSI               | bar | PSI               | bar |
| 2-1/2"                           | 500               | 35  | 665               | 45  |
| 3"                               | 500               | 35  | 665               | 45  |
| 4"                               | 500               | 35  | 665               | 45  |

\*Stainless Steel 316/316L, 2205 Duplex & 2507 Super Duplex pressure ratings.

| Carbon Steel Pressure Ratings |                   |     |                   |     |
|-------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                      | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                               | PSI               | bar | PSI               | bar |
| 2-1/2"                        | 500               | 35  | 665               | 45  |
| 3"                            | 500               | 35  | 665               | 45  |
| 4"                            | 500               | 35  | 665               | 45  |

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| Size NPS                       | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 2-1/2"                         | 365               | 25  | 495               | 34  |
| 3"                             | 365               | 25  | 495               | 34  |

| Titanium Pressure Ratings |                   |     |                   |     |
|---------------------------|-------------------|-----|-------------------|-----|
| Size NPS                  | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                           | PSI               | bar | PSI               | bar |
| 2-1/2"                    | 500               | 35  | 665               | 45  |
| 3"                        | 500               | 35  | 665               | 45  |
| 4"                        | 500               | 35  | 665               | 45  |

## DP 40M Series – Metric Pipe Low Pressure

Pressure Ratings are based on system temperatures of -15°F to 400°F (-26°C to 205°C) and are limited to the maximum rating of the adjoining tube and/or end connection. Consideration must be taken on PYPLOK® Pressure Ratings and adjoining connection with the lower rated end being the limiting factor.

| Copper Nickel Pressure Ratings |                   |     |                   |     |
|--------------------------------|-------------------|-----|-------------------|-----|
| Size OD (mm)                   | 4:1 Safety Factor |     | 3:1 Safety Factor |     |
|                                | PSI               | bar | PSI               | bar |
| 44.5                           | 450               | 31  | 600               | 42  |
| 57                             | 450               | 31  | 600               | 42  |

Introduction

Technical Information

DM 20 – NPS Pipe

DM 60 – OD Tube

DM 80 – Metric Tube

DM Series Thread Adapter

DM80 – Metric JS Tube

DP 40N – NPS Low Pressure

DP 40M – Metric Low Pressure

PYPLOK® Tooling

Installation Procedures

Appendix