

**DRILL PIPE DATA SHEET**  
**DRILL PIPE: 5 IEU by 19.50 lb/ft by Grade S by Range 3 (45.0 ft)**  
**TOOL JOINT: 6 5/8" OD by 3 3/4" ID by PTECH+<sup>TM</sup>52 (135 ksi SMYS)**

| DRILL PIPE BODY DIMENSIONAL DATA              |                   |                      |
|-----------------------------------------------|-------------------|----------------------|
|                                               | NEW<br>(100% RBW) | PREMIUM<br>(80% RBW) |
| OD (in)                                       | 5.000             | 4.855                |
| ID, Ref (in)                                  | 4.276             | 4.276                |
| Wall Thickness (in)                           | 0.362             | 0.290                |
| Cross Sectional Area (in <sup>2</sup> )       | 5.275             | 4.154                |
| Polar Section Modulus, J/c (in <sup>3</sup> ) | 11.415            | 8.953                |
| Section Modulus, I/c (in <sup>3</sup> )       | 5.708             | 4.476                |

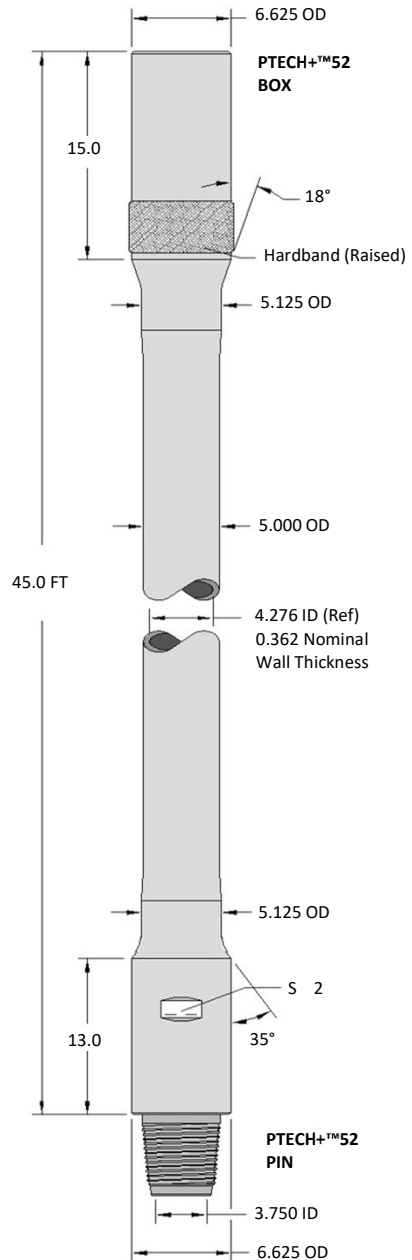
Premium class values based on a minimum wall thickness equal to 80% of New drill pipe body nominal wall thickness, reference API RP 7G-2.

| DRILL PIPE BODY PERFORMANCE PROPERTIES |                   |                      |
|----------------------------------------|-------------------|----------------------|
|                                        | NEW<br>(100% RBW) | PREMIUM<br>(80% RBW) |
| Tensile Yield (lb)                     | 712,070           | 560,764              |
| Torsional Yield (ft-lb)                | 74,100            | 58,114               |
| Collapse Pressure (psi)                | 15,672            | 10,029               |
| Internal Yield Pressure (psi)          | 17,105            | 15,638               |
| Material Yield Strength (psi)          | 135,000           |                      |

Drill pipe body performance properties are based on API RP 7G. Class New drill pipe body data is for reference only and is not intended for drill string design purposes.

| TOOL JOINT DATA (New)                                               |                         |          |
|---------------------------------------------------------------------|-------------------------|----------|
| Connection Size                                                     | PTECH+ <sup>TM</sup> 52 |          |
| OD (in)                                                             | 6.625                   |          |
| ID (in)                                                             | 3.750                   |          |
| Box Tool Joint OD Length (in)                                       | 15.0                    |          |
| Pin Tool Joint OD Length (in)                                       | 13.0                    |          |
| Connection Bevel Diameter (in)                                      | 6.331                   |          |
| Material Yield Strength (psi)                                       | 135,000                 |          |
| Thread Compound Friction Factor                                     | 1.0 (a)                 | 1.15 (b) |
| Recommended Make-Up Torque (ft-lb)                                  | 54,800                  | 63,000   |
| Max Make-Up Torque (ft-lb)                                          | 63,900                  | 73,500   |
| Torsional Yield (ft-lb)                                             | 91,400                  |          |
| Torsional Strength Ratio (TJ/DPB)                                   | 1.23                    |          |
| Approximate Tension to Yield Pin at Recommended Make-Up Torque (lb) | 960,300                 |          |
| Approximate Tension to Yield Pin at Max Make-Up Torque (lb)         | 721,300                 |          |
| Tool Joint Tensile Yield (lb)                                       | 1,243,900               |          |
| Balanced OD (in)                                                    | 6.429                   |          |

- (a) Make-Up Torque values shown under column 1.0 are based on using a 1.0 friction factor thread compound (0.08 coefficient of friction).  
(b) Make-Up Torque values shown under column 1.15 have been adjusted based on using a 1.15 friction factor thread compound. The make-up torque values are only applicable when using a thread compound rated by the manufacturer to have a 1.15 friction factor.  
(c) Recommended Make-Up Torque is based on 60% of the connection torsional yield, ref. API RP 7G.  
(d) Max Make-Up Torque is based on 70% of the connection torsional yield. It is the maximum make-up torque that can be applied to the connection to prevent downhole make-up, reference IADC Drilling Manual. Never exceed Max Make-Up Torque.



| ASSEMBLY DATA (New) |         |                       |          |                                        |          |                   |                                                  |
|---------------------|---------|-----------------------|----------|----------------------------------------|----------|-------------------|--------------------------------------------------|
| Weight<br>(Approx.) |         | Capacity<br>(Approx.) |          | Displacement<br>Open Ends<br>(Approx.) |          | Drift<br>Diameter | Assembly Length<br>Shld'r to Shld'r<br>(Approx.) |
| (lb/joint)          | (lb/ft) | (US gallon/ft)        | (BBL/ft) | (US gallon/ft)                         | (BBL/ft) | (in)              | (ft)                                             |
| 1,028               | 22.85   | 0.7143                | 0.0170   | 0.3492                                 | 0.0083   | 3.625             | 45.0                                             |

Assembly data based on TSC 95% RBW New drill pipe nominal dimensions and no internal plastic coating. Conversion Factor: 1 BBL = 42 US gallons. For internal plastic coated drill pipe, above drift diameter shall be reduced by the amount specified by the plastic coating applicator.

**Notes:**

- All data is calculated based on standard methods. No safety factor applied.
- Premium Class drill pipe body data is based on a minimum wall thickness equal to 80% of New drill pipe nominal wall thickness, reference API RP 7G-2.
- Drawing is for reference purposes only, not to scale, and based on New drill pipe nominal dimensions, units of inches unless otherwise indicated.

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