

DRILL PIPE DATA SHEET
DRILL PIPE: 4 1/2 IEU by 20.00 lb/ft by Grade S by Range 2 (31.5 ft)
TOOL JOINT: 5 1/4" OD by 3" ID by PTECH+TM43 (135 ksi SMYS)

DRILL PIPE BODY DIMENSIONAL DATA		
	NEW (100% RBW)	PREMIUM (80% RBW)
OD (in)	4.500	4.328
ID, Ref (in)	3.640	3.640
Wall Thickness (in)	0.430	0.344
Cross Sectional Area (in ²)	5.498	4.306
Polar Section Modulus, J/c (in ³)	10.232	7.954
Section Modulus, I/c (in ³)	5.116	3.977

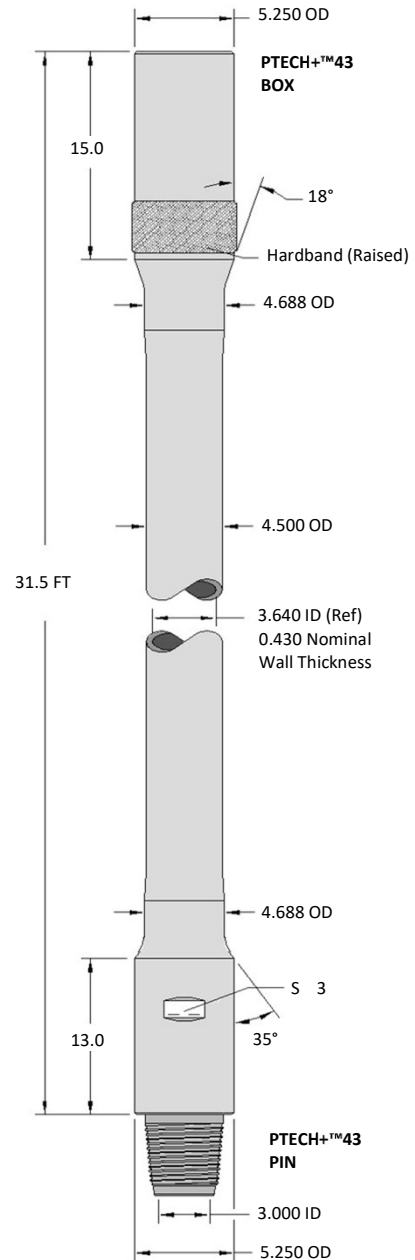
Premium class values based on a minimum wall thickness equal to 80% of New drill pipe body nominal wall thickness, reference API RP 7G-2.

DRILL PIPE BODY PERFORMANCE PROPERTIES		
	NEW (100% RBW)	PREMIUM (80% RBW)
Tensile Yield (lb)	742,244	581,248
Torsional Yield (ft-lb)	66,421	51,630
Collapse Pressure (psi)	23,335	18,806
Internal Yield Pressure (psi)	22,575	20,640
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+ TM 43	
OD (in)	5.250	
ID (in)	3.000	
Box Tool Joint OD Length (in)	15.0	
Pin Tool Joint OD Length (in)	13.0	
Connection Bevel Diameter (in)	5.047	
Material Yield Strength (psi)	135,000	
Thread Compound Friction Factor	1.0 (a)	1.15 (b)
Recommended Make-Up Torque (ft-lb)	29,100	33,400 (c)
Max Make-Up Torque (ft-lb)	33,900	39,000 (d)
Torsional Yield (ft-lb)	48,400	
Torsional Strength Ratio (TJ/DPB)	0.73	
Approximate Tension to Yield Pin at Recommended Make-Up Torque (lb)	571,200	
Approximate Tension to Yield Pin at Max Make-Up Torque (lb)	429,500	
Tool Joint Tensile Yield (lb)	818,300	
Balanced OD (in)	5.250	

- (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.
(e) Torsional strength ratio is less than 0.80
(f) Tension less than Premium Class (80% RBW) drill pipe body tensile yield capacity.



ASSEMBLY DATA (New)							
Weight (Approx.)		Capacity (Approx.)		Displacement Open Ends (Approx.)		Drift Diameter	Assembly Length Shld'r to Shld'r (Approx.)
(lb/joint)	(lb/ft)	(US gallon/ft)	(BBL/ft)	(US gallon/ft)	(BBL/ft)	(in)	(ft)
716	22.71	0.5039	0.0120	0.3471	0.0083	2.875	31.5

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.

The technical information contained herein is for reference purposes only and is not a recommendation. TSC Drill Pipe does not assume responsibility for results obtained through the use of the technical information, no warranty is expressed or implied. User is fully responsible for the accuracy and suitability of use of the technical information and application of appropriate safety factor. TSC Drill Pipe reserves the right to amend or update the data sheet at any time without notification. Email sales@drillpipe.com or visit drillpipe.com for the latest data sheets.

Revision 2, 5/20/2025

