

Drill Pipe Performance Sheet

Size and Weight: 2.875" 10.40 ppf 0.362" wall EU

Grade: S-135

Range: 2

Tool Joint: 3.375" x 1.844" XT27

Pipe Body:

	Nominal 100% RBW	95% RBW	Ultra Class 90% RBW	Premium 80% RBW
OD (in):	2.875	2.839	2.803	2.730
Wall Thickness (in):	0.362	0.344	0.326	0.290
Nominal ID (in):	2.151	2.151	2.151	2.151
Tensile Strength (lbs):	385,820	363,889	342,236	299,763
Torsional Strength (ft-lbs):	20,798	19,547	18,321	15,945
Burst Capacity (psi):	29,747	32,297	30,597	27,197
Collapse Capacity (psi):	29,716	28,746	27,739	25,602

Notes: Body properties are calculated based on uniform OD and wall thickness.
 Burst capacity for Nominal (100% RBW) based on 87.5% RBW per API.

Tubular Assembly:

Adjusted Weight (lbs/ft):	11.24	Fluid Displacement (gal/ft):	0.17
Approximate Length (ft):	32.1	Fluid Displacement (bbls/ft):	0.0041
Box TJ Length (in):	17	Fluid Capacity w/IPC (gal/ft):	0.17
Pin TJ Length (in):	12	Fluid Capacity w/IPC (bbls/ft):	0.0042
Upset Type:	EU	Fluid Capacity w/o IPC (gal/ft):	0.18
Max Upset OD (in):	3.188	Fluid Capacity w/o IPC (bbls/ft):	0.0042
Drift Size (in):	1.719		

Note: These are OEM values that may vary with actual values due to mill tolerances, IPC tolerances, OEM rounding, and other factors. Pipe is purchased at a guaranteed 95% RBW. IPC is applied to a nominal thickness of 0.009". Pipe will have an ID of 2.093", which is smaller than pipe purchased at 87.5%.

Connection: XT27

TJ OD (in): **3.375**

TJ ID (in): **1.844**

MYS (ksi): 130

Maximum MUT (ft-lbs): **7,100**

Tension at Shoulder Separation @ Max MUT (lbs): Tensile Limited

Tension at Connection Yield @ Max MUT (lbs): 239,000

Minimum MUT (ft-lbs): **5,900**

Tension at Shoulder Separation @ Min MUT (lbs): Tensile Limited

Tension at Connection Yield @ Min MUT (lbs): 298,300

Tool Joint Torsional Strength (ft-lbs): 11,900

Tool Joint Tensile Strength (lbs): 301,200

XT27 is a trademark of NOV Grant-Prideo.

Note: MUT values are based on a friction factor of 1.0. There is no published pressure rating for this connection.

Elevator Shoulder:

Smooth Edge Height (in): 3/32

Smooth Edge OD (in): 3.562

SE Elevator Shoulder Capacity (lbs): 166,400

Nominal TJ OD (in): 3.375

Nominal TJ OD Elevator Shoulder Capacity (lbs): 53,900

Assumed Elevator Bore (in): 3.281

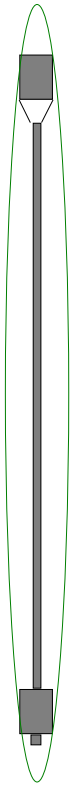
This asset must be handled with a lift nubbin after a certain footage. For more information, please consult Workstrings Operations.

The technical information contained herein, including the product performance sheet and other attached documents, has been extracted from information available from the manufacturer and is for reference only and not a recommendation. The user is fully responsible for the accuracy and suitability of use of the technical information. Workstrings International cannot assume responsibility for the results obtained through the use of this material. No expressed or implied warranty is intended. Drill pipe assembly properties are calculated based on uniform OD and wall thickness. No safety factor is applied. The information provided for various inspection classes and for various wear conditions (remaining body wall) is for information only and does not represent or imply acceptable operation limits. It is the responsibility of the customer and the end user to determine the appropriate performance ratings, acceptable use of the product, maintain safe operational practices, and to apply a prudent safety factor suitable for the application. For API connections that have different pin and box IDs, tool joint ID refers to the pin ID. Per Chapter B, Section 4 VII of the IADC drilling manual, it is recommended that drilling torque should not exceed 80% of MUT.



Operational Limits of Drill Pipe

Connection	XT27	Tool Joint OD (in)	3.375	Tool Joint ID (in)	1.844	Tool Joint Specified Minimum Yield Strength (psi)	130,000
Pipe Body	80 % Inspection Class	Pipe Body OD (in)	2.875	Wall Thickness (in)	0.362	Pipe Body Grade	S-135



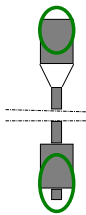
Combined Loading for Drill Pipe at Maximum Make-up Torque = 7,100 (ft-lbs)			
Operational Torque (ft-lbs)	Assembly Max Tension (lbs)	Pipe Body Max Tension (lbs)	Connection Max Tension (lbs)
0	239,000	299,800	239,000
300	239,000	299,700	239,000
600	239,000	299,600	239,000
900	239,000	299,300	239,000
1,200	239,000	298,900	239,000
1,500	239,000	298,400	239,000
1,800	239,000	297,800	239,000
2,100	239,000	297,200	239,000
2,400	239,000	296,300	239,000
2,700	239,000	295,400	239,000
3,000	239,000	294,400	239,000
3,300	239,000	293,300	239,000
3,700	239,000	291,600	239,000
4,000	239,000	290,200	239,000
4,300	239,000	288,700	239,000
4,600	239,000	287,000	239,000
4,900	239,000	285,300	239,000
5,200	239,000	283,400	239,000
5,500	239,000	281,400	239,000
5,800	239,000	279,400	239,000

Operational drilling torque is limited by the Make-up Torque.

Combined Loading for Drill Pipe at Minimum Make-up Torque = 5,900 (ft-lbs)			
Operational Torque (ft-lbs)	Assembly Max Tension (lbs)	Pipe Body Max Tension (lbs)	Connection Max Tension (lbs)
0	298,300	299,800	298,300
200	298,300	299,700	298,300
500	298,300	299,600	298,300
700	298,300	299,500	298,300
900	298,300	299,300	298,300
1,100	298,300	299,000	298,300
1,400	298,300	298,600	298,300
1,600	298,300	298,300	298,300
1,800	297,800	297,800	298,300
2,000	297,400	297,400	298,300
2,300	296,600	296,600	298,300
2,500	296,100	296,100	298,300
2,700	295,400	295,400	298,300
2,900	294,800	294,800	298,300
3,200	293,700	293,700	298,300
3,400	292,900	292,900	298,300
3,600	292,000	292,000	298,300
3,900	290,700	290,700	298,300
4,100	289,700	289,700	298,300
4,300	288,600	288,600	298,300

Operational drilling torque is limited by the Make-up Torque.

Connection Make-up Torque Range



	Make-up Torque (ft-lbs)	Connection Max Tension (lbs)
Min MUT	5,900	298,400
	6,000	293,400
	6,200	283,500
	6,300	278,600
	6,400	273,600
	6,600	263,700
	6,700	258,800
	6,800	253,800
	7,000	243,900
	7,100	239,000
Max MUT	7,100	239,000

Note: Recommended MUT should always be used when possible. If not possible, MUT should be as close to Recommended MUT as possible.

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