

## New Tool Joints and New Drill Pipe

Pipe		Tool Joint							Pipe	Tool Joint	Pipe	Tool Joint	
API Label 1 (Pipe OD) (in)	API Label 2 (Nominal Weight) (lbs/ft)	Grade	Connection Size and Style RSC Type	OD (in)	ID (in)	Make-Up Torque (ft-lbs)	Drift Diameter (in)	Tensile Yield (lbs)	Tensile Yield (lbs)	Torsional Yield Strength (ft-lbs)	Torsional Yield Strength (ft-lbs)	Torsional Ratio	
2 7/8	6.85	E	NC 31	4 1/8	2 1/8	7,074	2.000	135,902	447,100	8,083	11,790	1.46	
		X	NC 31	4 1/8	2	7,895	1.875	172,143	495,700	10,238	13,158	1.29	
		G	NC 31	4 1/8	2	7,895	1.875	190,263	495,700	11,316	13,158	1.16	
		S	NC 31	4 1/8	1 5/8	8,513	1.500	244,624	623,800	14,549	14,188 <sup>b</sup>	0.98	
	10.40	E	NC 31	4 3/8	2 1/8	7,074	2.000	214,344	447,100	11,554	11,790	1.02	
		X	NC 31	4 3/8	2	7,895	1.875	271,503	495,700	14,635	13,158	0.90	
		G	NC 31	4 3/8	2	7,895	1.875	300,082	495,700	16,176	13,158	0.81	
		S	NC 31	4 3/8	1 5/8	10,086	1.500	385,820	623,800	20,798	16,809	0.81	

**b - Torsional yield values shown in yellow indicate the connection is box weak in torsion.**

The torsional yield strength is based on a shear strength of 57.7% of the minimum yield strength and nominal wall thickness.

TSDS Values based on 135Ksi Material Yield Strength. API NC Values based on 120Ksi Material Yield Strength.

Pin tensile yield values are based on tensile loading conditions only, and do not include the combined effect of torsional and tensile loading.