



Drill Pipe Performance Characteristics			Pipe Size & Weight: 5-1/2" 21.90# IEU Pipe Grade: S-135 Range: 2 Tool Joint: 7.000 X 3.500 DS55			
<b>Pipe</b>						
		<b>New</b>	<b>Premium</b>		<b>New</b>	<b>Premium</b>
	OD (in)	5.500	5.356	Torsional strength (ft-lbs)	91,278	71,750
	Wall thickness (in)	0.361	0.289	Tensile strength (lbs)	786,800	620,600
	ID (in)	4.778	4.778			
	Calculated plain end weight (lbs/ft)	19.793	15.612	80% Torsional strength (ft-lbs)	73,022	57,400
<b>Note: Premium properties are calculated based on uniform OD and wall thickness.</b>						
	Cross sectional area pipe body (in <sup>2</sup> )	5.828	4.597	Pressure capacity (psi)	15,507	14,177
	Cross sectional area OD (in <sup>2</sup> )	23.758	22.527	Collapse capacity (psi)	12,674	7,490
	Cross sectional area ID (in <sup>2</sup> )	17.930	17.930			
	Section modulus (in <sup>3</sup> )	7.031	5.527			
	Polar section modulus (in <sup>3</sup> )	14.062	11.054			
<b>Tool Joint (120000 material Yield Strength)</b>			<b>Drill pipe assembly with DS55 Connection</b>			
	<b>DS55</b>	<b>OD (in)</b>	<b>7.000</b>			
		<b>ID (in)</b>	<b>3.500</b>			
	Pin tong length (in)		<b>10.0</b>	Adjusted weight (lbs/ft)		26.28
	Box tong length (in)		<b>12.0</b>	Approximate length (ft)		31.50
	<b>Torsional Strength (ft-lbs)</b>		<b>72,480</b>	Fluid displacement (gal/ft)		0.382
	<b>Max Recommended Make-up Torque (ft-lbs)</b>		<b>47,900</b>	Fluid capacity (gal/ft)		0.870
	<b>Min Recommended Make-up Torque (ft-lbs)</b>		<b>40,300</b>			
	Balance OD (in)		6.948	Drift size (in)		3.375
	Tensile strength (lbs)		1,292,500			
	Tool joint/Drill pipe torsional ratio (New pipe)		0.81			
	Tool joint/Drill pipe torsional ratio (Prem pipe)		1.03			
	Min OD for premium class (in)		6.718			
Minimum make-up is based on shoulder separation caused by bending.						



<b>Connection Wear Table</b>			
<b>Connection: DS55 7"OD x 3.5"ID</b>			
<b>Tool Joint OD (in)</b>	<b>Max MUT (ft-lbs)</b>	<b>Min MUT (ft-lbs)</b>	<b>Optimum</b>
7.000	47900	40300	44100
6.957	47900	40300	44100
6.913	47400	39800	43600
6.870	46900	39300	43100
6.827	46500	38900	42700
6.783	46000	38400	42200
6.740	45500	37900	41700
6.696	45000	37500	41250
6.653	43500	36200	39850
6.610	42000	35000	38500
6.566	40500	33800	37150
6.523	39100	32600	35850