

I) Grade E

Designations		Pipe body			Calculated weight		Upset dimensions							
Size	Nominal weight	OD	WT	ID	Plain end	Upset	OD	ID at end of pipe	Length of internal upset	Length of internal taper	Length of Exernal upset	Length of External taper		Length end of pipe to taper fadeout
							0.125 -0.03125	±1/16	1 1/2 -0.5	minmin	min	max		
in	lb/ft	in	in	in	lb/ft	lb	in	in	in	in	in	in	in	in
		D	t	d	wpe	ew	Dou	dou	Liu	miu	Leu	Meu min	meu Max	Leu+meu

Internal Upset (IU)														
4	14.00	4.000	0.330	3.340	12.93	4.60	4.250	2.750	1.75	2	-	-	-	-
4 1/2	13.75	4.500	0.271	3.958	12.24	5.20	4.750	3.375	1.75	-	-	-	-	-

External Upset (EU)														
2 3/8	6.65	2.375	0.280	1.815	6.26	1.80	2.656	1.815	-	-	1.50	1.50	-	4.00
2 7/8	10.40	2.875	0.362	2.151	9.72	2.40	3.219	2.151	-	-	1.50	1.50	-	4.00
3 1/2	9.50	3.500	0.254	2.992	8.81	2.60	3.938	2.992	-	-	1.50	1.50	-	4.00
13.30	3.500	0.368	2.764	12.31	4.00	3.938	2.602	2.25	2	1.50	1.50	-	4.00	
15.50	3.500	0.449	2.602	14.63	2.80	3.938	2.602	-	-	1.50	1.50	-	4.00	
4	14.00	4.000	0.330	3.340	12.93	5.00	4.563	3.340	-	-	1.50	1.50	-	4.00
4 1/2	13.75	4.500	0.271	3.958	12.24	5.60	5.063	3.958	-	-	1.50	1.50	-	4.00
16.60	4.500	0.337	3.826	14.98	5.60	5.063	3.826	-	-	1.50	1.50	-	4.00	
20.00	4.500	0.430	3.640	18.69	5.60	5.063	3.640	-	-	1.50	1.50	-	4.00	

Internal - External Upset (EU)														
4 1/2	16.60	4.500	0.337	3.826	14.98	8.10	4.750	3.156	2.5	2.0	1.50	1.00	1.50	-
20.00	4.500	0.430	3.640	18.69	8.60	4.781	3.000	2.25	2.0	1.50	1.00	1.50	-	
5	19.50	5.000	0.362	4.276	17.93	8.60	5.188	3.688	2.25	2.0	1.50	1.00	1.50	-
25.60	5.000	0.500	4.000	24.03	7.80	5.188	3.438	2.25	2.0	1.50	1.00	1.50	-	
5 1/2	21.90	5.500	0.361	4.778	19.81	10.60	5.750	4.000	2.25	2.0	1.50	1.00	1.50	-
24.70	5.500	0.415	4.670	22.54	9.00	5.750	4.000	2.25	2.0	1.50	1.00	1.50	-	

II) Grade X, G & S

Designations		Pipe body			Calculated weight		Upset dimensions						
Size	Nominal weight	OD	WT	ID	Plain end	Upset	OD	ID at end of pipe	Length of internal upset	Length of internal taper	Length of Exernal upset	Length end of pipe to taper fadeout	
							0.125 -0.03125	±1/16	1 1/2 -0.5	min	min	max	
in	lb/ft	in	in	in	lb/ft	lb	in	in	in	in	in	in	in
		D	t	d	wpe	ew	Dou	dou	Liu	miu	Leu	Leu+meu	

Internal Upset (IU)													
3 1/2	13.3	3.500	0.368	2.764	7.40	12.31	3.500	1.938	3.50	-	-	-	-
4	14.0	4.000	0.330	3.340	8.80	12.93	4.250	1.625	3.50	-	-	-	-

External upset(EU)													
2 3/8	6.65	2.375	0.280	1.815	6.26	4.60	2.656	1.562	4.25	-	3.0	5.5	
2 7/8	10.4	2.875	0.362	2.151	9.72	6.20	3.250	1.938	4.25	-	3.0	5.5	
3 1/2	13.3	3.500	0.368	2.764	12.31	10.20	4.000	2.500	4.25	-	3.0	5.5	
15.5	3.500	0.449	2.602	14.63	8.20	4.000	2.500	4.25	-	3.0	5.5		
4	14.0	4.000	0.330	3.340	12.93	14.40	4.625	3.062	4.25	-	3.0	5.5	
4 1/2	16.6	4.500	0.337	3.826	14.98	17.20	5.188	3.562	4.25	-	3.0	5.5	
20.0	4.500	0.430	3.640	18.69	16.00	5.188	3.438	4.25	-				

External upset(EU)													
4 1/2	16.6	4.500	0.337	3.826	14.98	8.70	4.750	2.875	2.5	3.0	1.5	3.0	
20.0	4.500	0.430	3.640	18.69	17.60	4.781	2.812	4.25	3.0	3.0	5.5		
5	19.5	5.000	0.362	4.276	17.93	16.80	5.188	3.562	4.25	3.0	3.0	5.5	
25.6	5.000	0.500	4.000	24.03	15.40	5.188	3.312	4.25	3.0	3.0	5.5		
5 1/2	21.9	5.500	0.361	4.778	19.81	21.00	5.750	3.812	4.25	3.0	3.0	5.5	
24.7	5.500	0.415	4.670	22.54	18.40	5.750	3.812	4.25	3.0	3.0	5.5		

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MAHARASHTRA SEAMLESS LIMITED



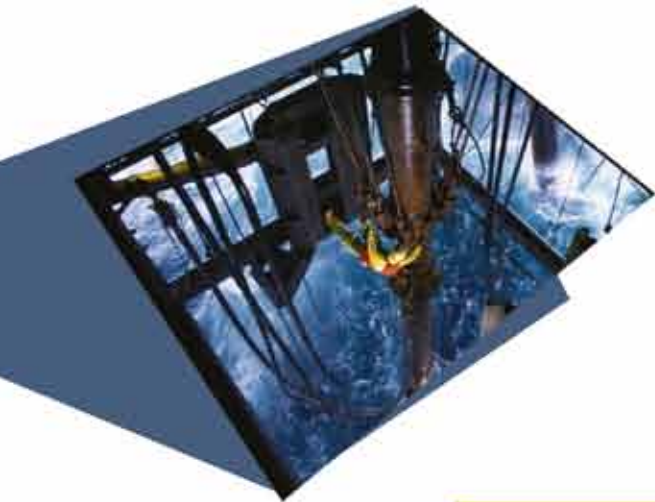
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MAHARASHTRA SEAMLESS LIMITED



DRILL PIPES

15-017/MSL/DP



Drill Pipes are Seamless Steel Tubular with weld-on tool joint that are used in drilling rigs both offshore and onshore.

Drill Pipes are manufactured with high quality of Tubular with friction welding to withstand high torque, internal/ external pressure, distortion, bending and vibration. Each and every stage of Drill Pipe manufacturing process are monitored, tested and recorded.



DRILL PIPE MECHANICAL PROPERTIES

SPEC	GRADE	YIELD STRENGTH				TENSILE STRENGTH				ELONGATION	HARDNESS	IMPACT VALUE			
		MIN		MAX		MIN		MAX				MIN	MAX	ftlb	Joules
		Ksi	Mpa	Ksi	Mpa	Ksi	Mpa	Ksi	Mpa						
API 5DP	E-75	75	517	105	724	100	689	-	-	As per API	HRC				
	X-95	95	655	125	862	105	724	-	-						
	G-105	105	724	135	931	115	793	-	-						
	S-135	135	931	165	1138	145	1000	-	-						

DRILL PIPES DETAILS

Pipe size	ppf	Pipe OD		wall thickness		Grade	Upset type	RSC type	Tool joint OD		Tool joint ID															
in	lb/ft	in	mm	in	mm				in	mm	in	mm														
2 3/8	6.65	2.375	60.30	0.280	7.11	E X G	EU	NC26 (2 3/8 IF)	3 3/8	85.70	1 3/4	44.50														
2 7/8	10.4	2.875	73.00	0.362	9.19	E X G S	EU	NC31 (2 7/8 IF)	4 1/8	104.80	2 1/8	53.98														
						2.00					50.80															
						4 3/8			111.10	1 5/8	41.28															
						4 3/4			120.70	2 11/16	68.26															
3 1/2	13.3	3.500	88.90	0.368	9.35	E X G S	EU	NC38 (3 1/2 IF)	5.0	127.0	2 9/16	65.09														
	15.5					0.449					11.4	E X G S	EU	NC38 (3 1/2 IF)	2 7/16	61.91										
															2 1/8	53.98										
															2 9/16	65.09										
				2 7/16	61.91																					
	S			IEU	NC40(4FH)	2 1/8	53.98																			
						2 1/2	57.15																			
						4	14.0	4.000			101.60	0.330	8.38	E X G S	IU	NC40 (4FH)	2 13/16	71.40								
2 11/16		61.90																								
2 7/16	61.90																									
5 1/2	139.70	2.00	50.80																							
4 1/2	13.75	4.500	114.30	0.270	6.88	E	EU	NC50 (4 1/2 IF)	6 1/4	158.75	3 7/8	98.45														
	16.6					0.337					8.6	E X G S	IEU	NC46 (4IF)	6.63	168.30	3 1/4	82.55								
																	20.0	0.430	10.92	E X G S	IEU	NC46 (4IF)	6.25	158.75	3.00	76.20
																									2 3/4	69.85
				3.00	76.20																					
	2 3/4			69.85																						
	5			19.5	5.000	127.00	0.362	9.19	E X G S E X G S	IEU	NC50 (4 1/2 IF)	6 5/8	168.30	3 3/4	95.25											
									25.6					0.500	12.70	E X G E X G S	IEU	NC50 (4 1/2 IF)	6 5/8	168.30	3 1/2	88.9				
3 1/4		82.53																								
2 3/4		69.85																								
7.00		177.80	3 3/4	95.25																						
7 1/4		184.15	3 1/2	88.90																						
			3 1/2	88.90																						
			3.00	76.20																						
	2 3/4		69.85																							
5 1/2	21.9	5.500	139.70	0.360	9.17	E X G S	IEU	5 1/2 FH	7.00	177.80	4.00	101.60														
						24.7					0.420	10.54	E X G S	IEU	5 1/2 FH	7.00	177.80	3 3/4	95.25							
																		3 1/2	88.90							
																		3.00	76.20							
	4.00			101.6																						
	7 1/4			184.15	3 1/2	88.90																				
					3 1/2	88.90																				
					3.00	76.20																				
7 1/2		190.50	3.00		76.20																					

DRILL PIPE PROCESS FLOW CHART

