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TECHNICAL SPECIFICATIONS

Equipment No's: Ref. Enclosed page **Spec. No.:** DP-4-01

4" OD Drill Pipe, S-135, NC-40 Vam Eis Conn's.

New **Premium**
80% remaining Body Wall

DESCRIPTION

Type	IU, 15.70 #
Range	2
Conventional=welded T-J. / Integral=Monoblock	Conventional

TUBE DATA

Material grade		S-135			
Internal plastic coating		TK-34P			
Tube body OD x ID	inch	4,000	3,240	3,848	3,240
Wall thickness, nominal	inch	0,380		0,304	
Cross Sectional Area	$inch^2$	4,322		3,385	
Polar Sectional Modulus	$inch^3$	7,157		5,564	
Tensile yield pipe	lbf	583 400		456 900	
	kN	*2 595*		*2 032*	
Torsional yield pipe	lbf-ft	46 460		36 120	
	kNm	*63,0*		*49,0*	
80% Torsional Yield	lbf-ft	37 168		28 896	
	kNm	*50,4*		*39,2*	

CONNECTION DATA

Connection type		NC-40 Vam Eis			
Material grade		120 ksi			
Hardbanding		Amco-300XT			
OD x ID	inch	5,000	2,563	4,859	2,563
B.S.R.	x : 1	1,90		1,67	
Tensile yield tooljoint	lbf	628 500		497 500	
	kN	*2 796*		*2 213*	
Torsional yield tooljoint	lbf-ft	31 070		26 580	
	kNm	*42,1*		*36,0*	
Make up torque (Max.)	lbf-ft	17 700		15 200	
	kNm	*24,0*		*20,6*	

OPERATIONAL DATA

Tool joint/Drill pipe torsional ratio	=> 0.80	0,67		0,86	
Drift diameter	inch	2,438			
Type of elevator shoulder:		18°			
Burst pressure	psi	22 440		20 520	
	Mpa	*155*		*141*	
Collapse pressure	psi	23 210		18 590	
	MPa	*160*		*128*	
Adjusted weight	lbs/ft	17,9			
	kg/mtr	*26,6*			
Approx weight each joint	lbs	563			
	kg	*255*			
Capacity	gal/ft	0,410			
	ltr/mtr	*5,09*			
Open end displacement	gal/ft	0,273			
	ltr/mtr	*3,39*			
Closed end displacement	gal/ft	0,68			
	ltr/mtr	*8,48*			
Built In Length (shoulder to shoulder)	ft	31,5			
	mtr.	*9,6*			

Calculated using nominal OD & ID. Safety & Dope friction factor used: 1.0

Values herein is meant as guidelines only. Odfjell will not be held liable for any damage or injuries !

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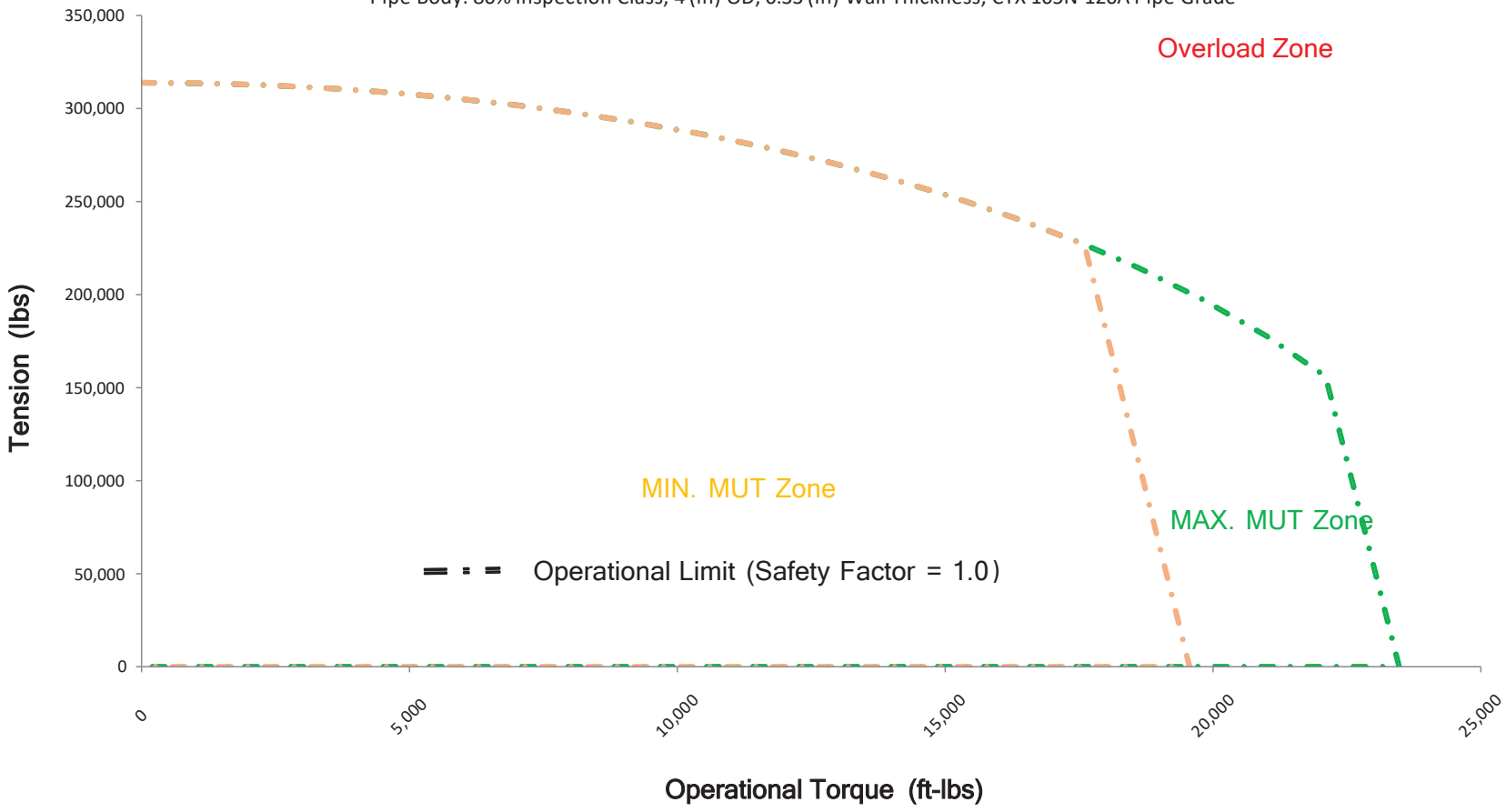
String number:	*Joints:*	*Individual serial numbers:*
OWS-DP-402	470	OWS-001 to OWS-473

Drill Pipe Operational Limits (Connection at Recommended MUT = 23,474 (ft-lbs)) (Connection at Minimum MUT = 19,562 (ft-lbs))

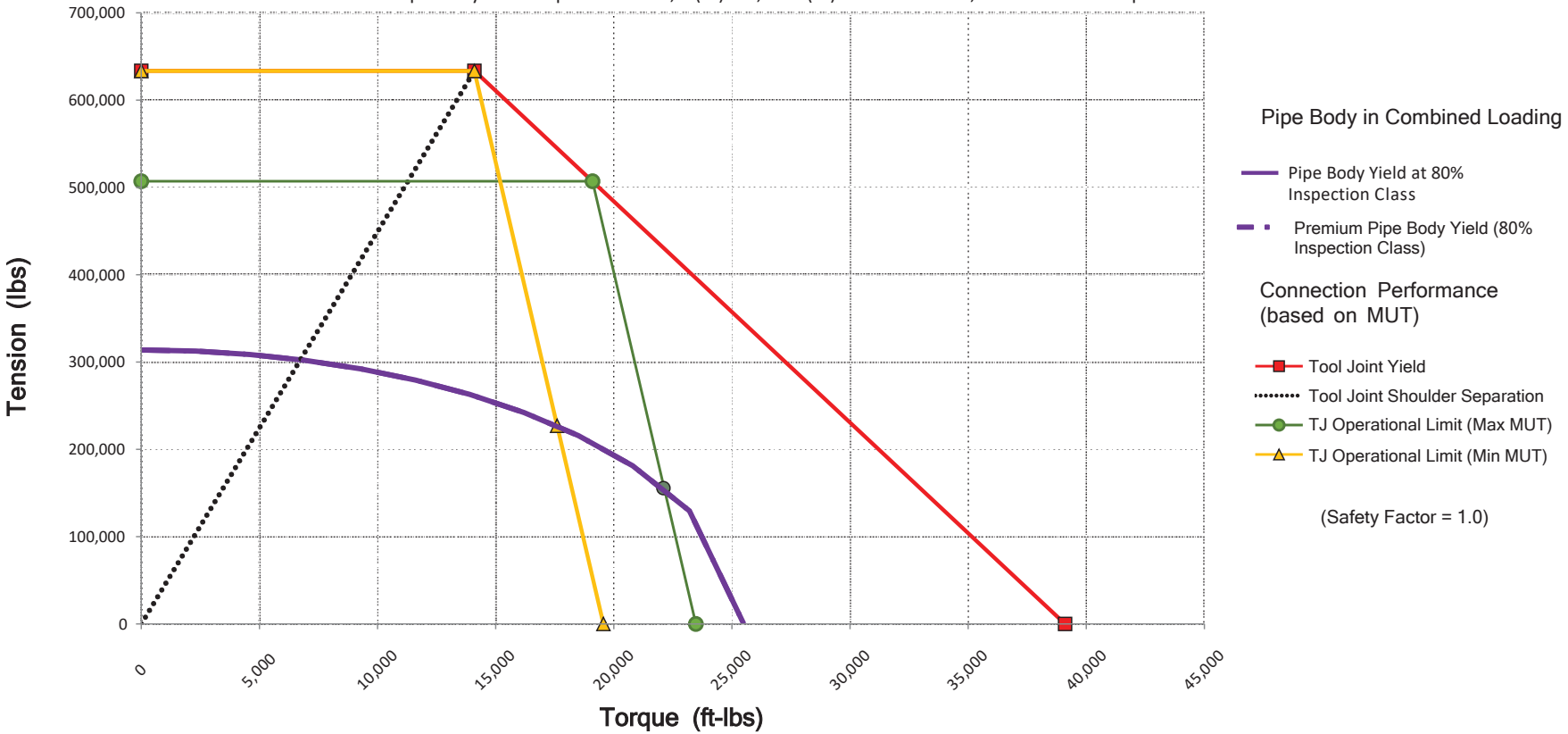
Connection: TurboTorque™ 390 (4.875 (in) OD 2.688 (in) ID) SMYS = 120,000 (psi) Friction Factor = 1.0

Pipe Body: 80% Inspection Class, 4 (in) OD, 0.33 (in) Wall Thickness, CYX 105N-120A Pipe Grade



Torque-Tension Graph

Connection: TurboTorque™ 390 (4.875 (in) OD 2.688 (in) ID) SMYS = 120,000 (psi) Friction Factor = 1.0
Pipe Body: 80% Inspection Class, 4 (in) OD, 0.33 (in) Wall Thickness, CYX 105N-120A Pipe Grade



Combined Loading for Drill Pipe

Connection: TurboTorque™ 390 4.875" x 2.688" (120 KSI SMYS) Friction Factor: 1.0
Pipe: 4.0" OD 0.330" Wall Thickness CYX™ 105N-120A 80% Inspection Class

At Max MUT (23500 ft-lbs)		At Min MUT (19600 ft-lbs)	
Operational Torque(ft-lbs)	Assembly Max Tension(lbs)	Operational Torque(ft-lbs)	Assembly Max Tension(lbs)
0	313900	0	313900
1200	313500	900	313700
2300	312600	1900	313000
3500	310900	2800	312000
4700	308500	3700	310500
5800	305600	4600	308700
7000	301800	5600	306200
8100	297600	6500	303500
9300	292200	7400	300300
10500	286000	8300	296700
11600	279400	9300	292200
12800	271400	10200	287600
14000	262200	11100	282500
15100	252800	12000	276900
16300	241200	13000	269900
17500	228100	13900	263000
18600	214500	14800	255500
19800	197500	15700	247200
21000	177700	16700	237000
22100	156100	17600	226900

Connection Wear Table

Connection: TurboTorque™ 390 4.875" x 2.688" (120 KSI SMYS) Friction Factor: 1.0

Tool Joint OD (in)	Max MUT(ft-lbs)	Min MUT(ft-lbs)
4.875	23500	19600
4.848	23500	19600
4.821	23300	19400
4.794	22700	18900
4.767	22100	18400
4.74	21600	18000
4.712	21000	17500
4.685	20500	17100
4.658	19900	16600
4.631	19400	16200
4.604	18900	15700
4.577	18400	15300

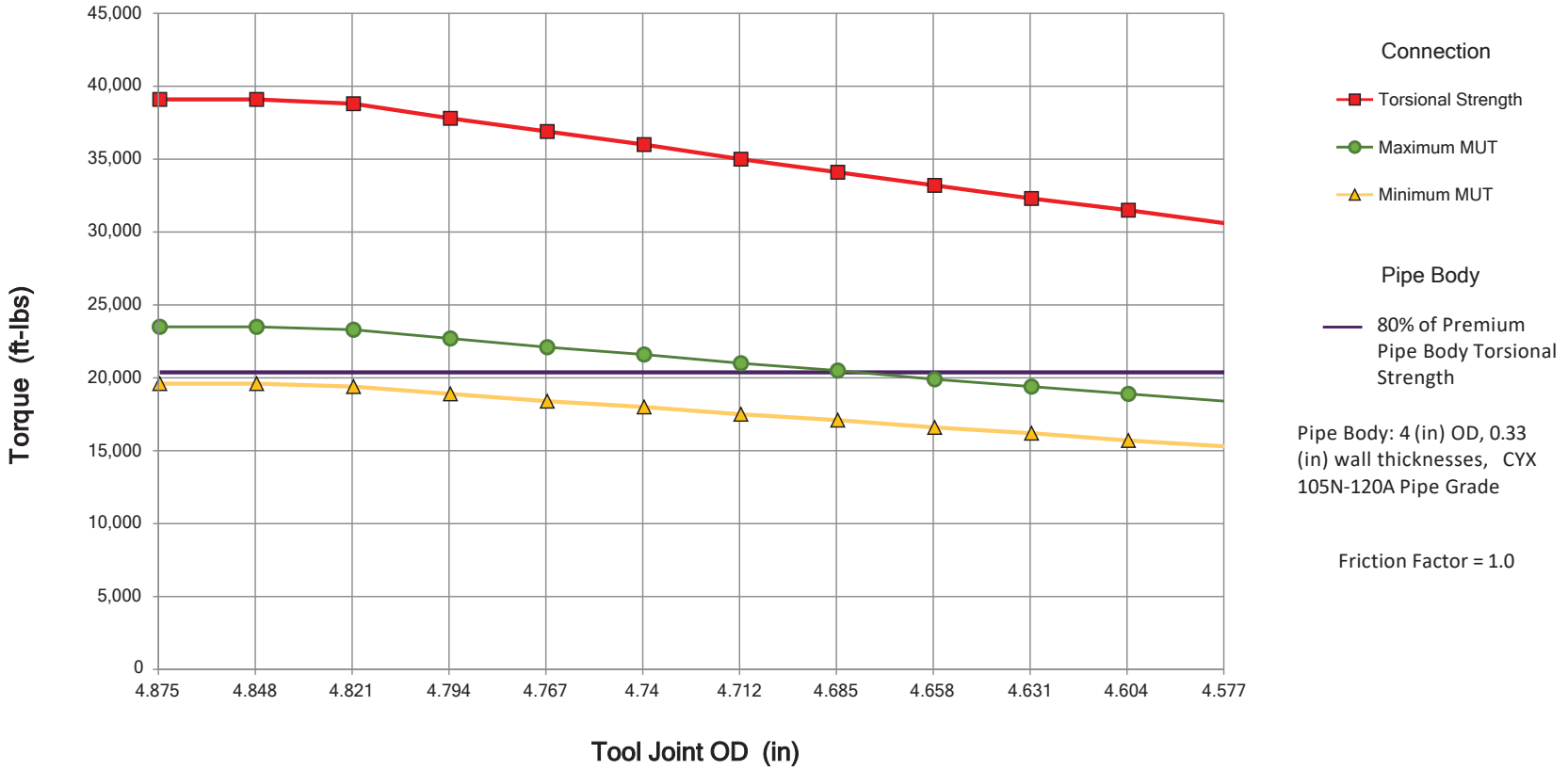
Elevator Capacity

Elevator Bore Diameter: 4.28175" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg
Connection: TurboTorque™ 390 4.0" 0.330" wall IU CYX™ 105N-120A

Tool Joint OD (in.)	Elevator Hoist Capacity (lbs)	
	No Wear	1/32" Wear Factor
5.0625	630900	607600
5.018	592100	568800
4.974	554100	530800
4.93	516400	493100
4.886	479000	455800
4.842	442000	418800
4.798	405300	382100
4.754	369000	345800
4.709	332200	308900
4.665	296500	273300
4.621	261200	237900
4.577	226200	202900

Connection Wear for TurboTorque™ 390 (4.875 (in) OD x 2.688 (in) ID)

Material SMYS (Specified Minimum Yield Strength) = 120,000 (psi)



Pipe Body: 4 (in) OD, 0.33 (in) wall thicknesses, CYX 105N-120A Pipe Grade

Friction Factor = 1.0