odfjell technology

# TECHNICAL SPECIFICATIONS

**Equipment No's:** Ref. Enclosed page **Spec. No.:** DP-5.5-07

## 5-1/2" OD Drill Pipe, S-135, 5-1/2" FH. VAM EIS Conn's.

**New** **Premium**
80% remaining Body Wall

**DESCRIPTION**

| | |
|---|---|
| Type | IEU, 21.90 # |
| 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 | 5,500 | 4,778 | 5,355 | 4,778 |
| Wall thickness, nominal | inch | 0,361 | | 0,289 | |
| Cross Sectional Area | $inch^2$ | 5,828 | | 4,592 | |
| Polar Sectional Modulus | $inch^3$ | 14,062 | | 11,042 | |
| Tensile yield pipe | lbf | 786 800 | | 619 900 | |
| | *kN* | *3 500* | | *2 757* | |
| Torsional yield pipe | lbf-ft | 91 280 | | 71 680 | |
| | *kNm* | *123,8* | | *97,2* | |
| 80% Torsional Yield | lbf-ft | 73 024 | | 57 344 | |
| | *kNm* | *99,0* | | *77,7* | |

### CONNECTION DATA

| | | | | | |
|---|---|---|---|---|---|
| Connection type | | 5-1/2" FH. VAM EIS | | | |
| Material grade | | 130ksi | | | |
| Hardbanding | | Arnco-300XT | | | |
| OD x ID | inch | 7,000 | 3,500 | 6,719 | 3,500 |
| B.S.R. | x : 1 | 1,97 | | 1,64 | |
| Tensile yield tooljoint | lbf | 1 731 000 | | 1 731 000 | |
| | *kN* | *7 700* | | *7 700* | |
| Torsional yield tooljoint | lbf-ft | 103 130 | | 84 950 | |
| | *kNm* | *139,8* | | *115,2* | |
| Make up torque (Max.) | lbf-ft | 58 800 | | 48 400 | |
| | *kNm* | *79,7* | | *65,6* | |

### OPERATIONAL DATA

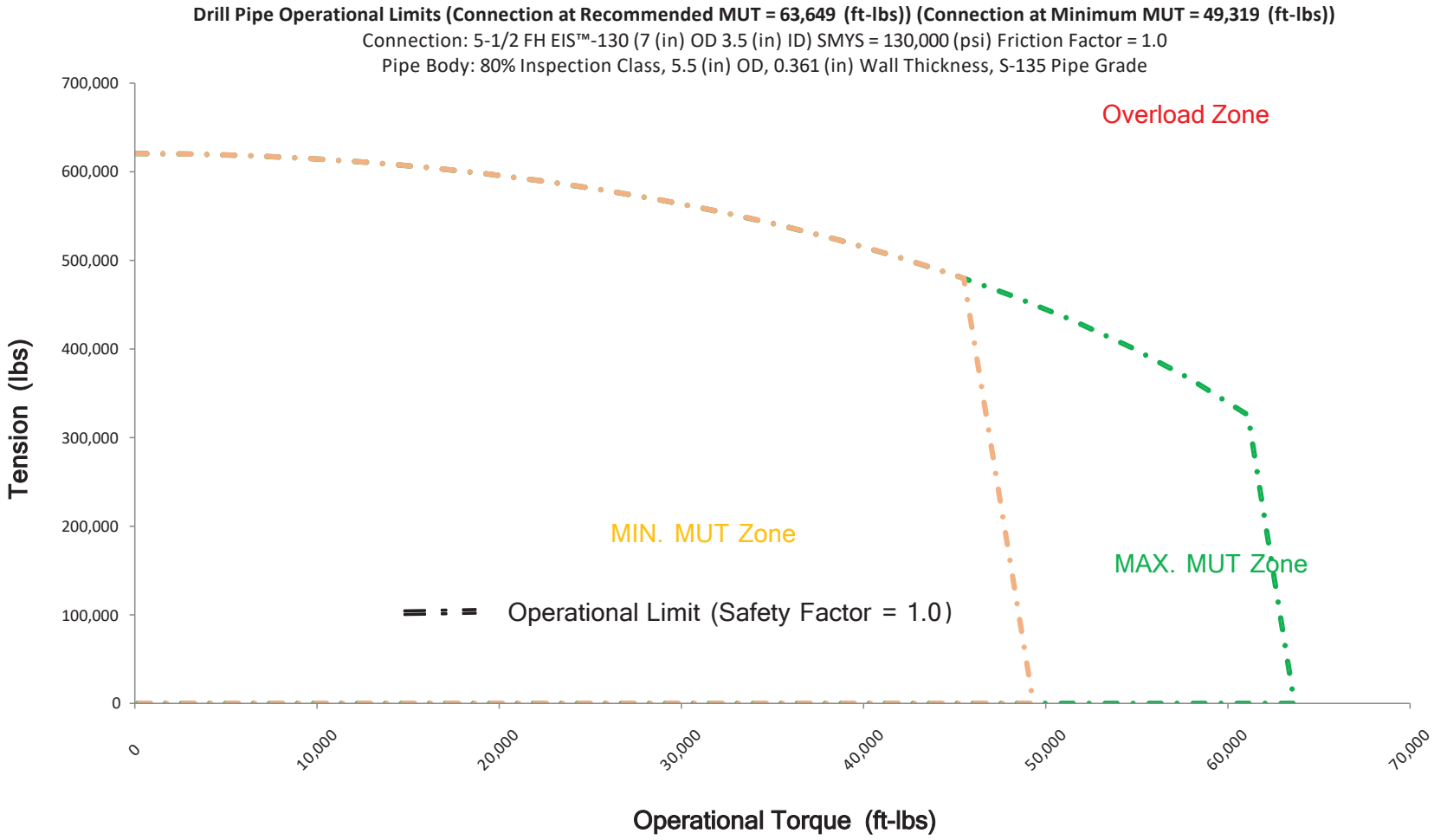
| | | | | | |
|---|---|---|---|---|---|
| Tool joint/Drill pipe torsional ratio | | 1,13 | | 1,44 | |
| Drift diameter | inch | 3,375 | | | |
| Type of elevator shoulder: | | 18° | | | |
| Burst pressure | psi | 15 500 | | 14 200 | |
| | *Mpa* | *107* | | *98* | |
| Collapse pressure | psi | 12 700 | | 7 500 | |
| | *MPa* | *88* | | *52* | |
| Adjusted weight | lbs/ft | 25,3 | | | |
| | *kg/mtr* | *37,7* | | | |
| Approx weight each joint | lbs | 798 | | | |
| | *kg* | *362* | | | |
| Capacity | gal/ft | 0,88 | | | |
| | *ltr/mtr* | *10,93* | | | |
| Open end displacement | gal/ft | 0,39 | | | |
| | *ltr/mtr* | *4,84* | | | |
| Closed end displacement | gal/ft | 1,27 | | | |
| | *ltr/mtr* | *15,77* | | | |
| 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 !

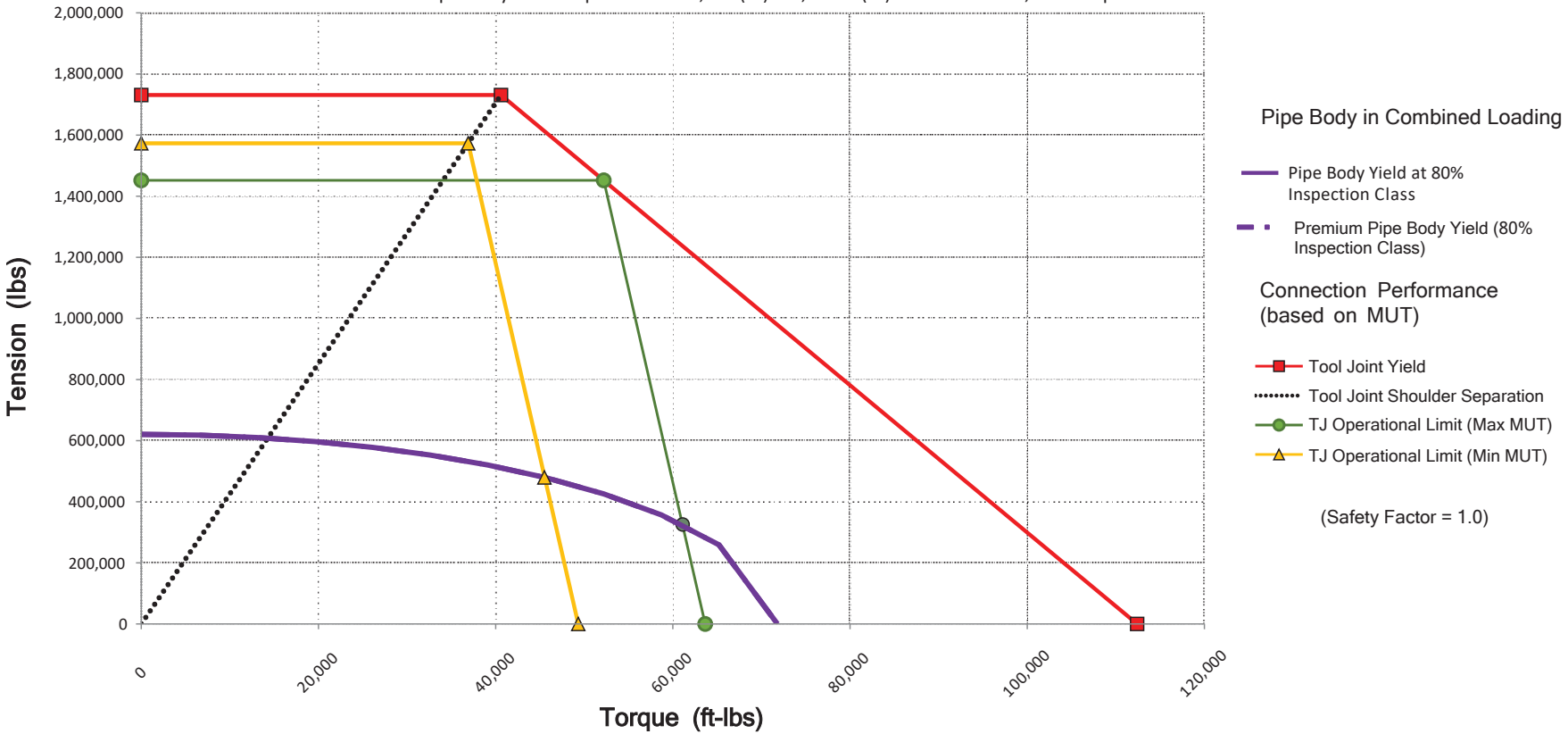
Docs. # 1056949 FRB - 23.03.2022

| *String number:* | *Joints:* | *Individual serial numbers:* |
|---|---|---|
| OWS-DP-5121-EIS | 444 | OWS-2000 to OWS-2443 |
| | | |
| | | |



## Torque-Tension Graph

Connection: 5-1/2 FH EIS™-130 (7 (in) OD 3.5 (in) ID) SMYS = 130,000 (psi) Friction Factor = 1.0
Pipe Body: 80% Inspection Class, 5.5 (in) OD, 0.361 (in) Wall Thickness, S-135 Pipe Grade



## Combined Loading for Drill Pipe

Connection: 5-1/2 FH EIS™ 7.0" x 3.5" (130 KSI SMYS ) Friction Factor: 1.0
Pipe: 5.5" OD 0.361" Wall Thickness S135 80% Inspection Class

| At Max MUT (63600 ft-lbs ) | | At Min MUT (49300 ft-lbs ) | |
|---|---|---|---|
| Operational Torque(ft-lbs) | Assembly Max Tension(lbs) | Operational Torque(ft-lbs) | Assembly Max Tension(lbs) |
| 0 | 620600 | 0 | 620600 |
| 3200 | 620000 | 2400 | 620300 |
| 6400 | 618100 | 4800 | 619200 |
| 9600 | 615000 | 7200 | 617500 |
| 12900 | 610500 | 9600 | 615000 |
| 16100 | 604800 | 12000 | 611900 |
| 19300 | 597700 | 14400 | 608000 |
| 22500 | 589300 | 16800 | 603400 |
| 25700 | 579400 | 19200 | 598000 |
| 28900 | 568000 | 21600 | 591800 |
| 32100 | 555000 | 24000 | 584900 |
| 35400 | 539800 | 26400 | 577100 |
| 38600 | 523200 | 28800 | 568400 |
| 41800 | 504400 | 31200 | 558900 |
| 45000 | 483400 | 33600 | 548400 |
| 48200 | 459700 | 36000 | 536800 |
| 51400 | 433000 | 38300 | 524800 |
| 54700 | 401700 | 40700 | 511100 |
| 57900 | 366600 | 43100 | 496200 |
| 61100 | 325400 | 45500 | 479900 |



## Connection Wear Table

Connection: 5-1/2 FH EIS™ 7.0" x 3.5" (130 KSI SMYS ) Friction Factor: 1.0

| Tool Joint OD (in) | Max MUT(ft-lbs) | Min MUT(ft-lbs) |
|---|---|---|
| 7.0 | 63600 | 49300 |
| 6.943 | 61400 | 47500 |
| 6.886 | 59100 | 45700 |
| 6.83 | 57000 | 44000 |
| 6.773 | 54800 | 42200 |
| 6.716 | 52600 | 40500 |
| 6.659 | 50500 | 38800 |
| 6.602 | 48300 | 37100 |
| 6.545 | 46300 | 35400 |
| 6.489 | 44200 | 33800 |
| 6.432 | 42200 | 32200 |
| 6.375 | 40100 | 30600 |

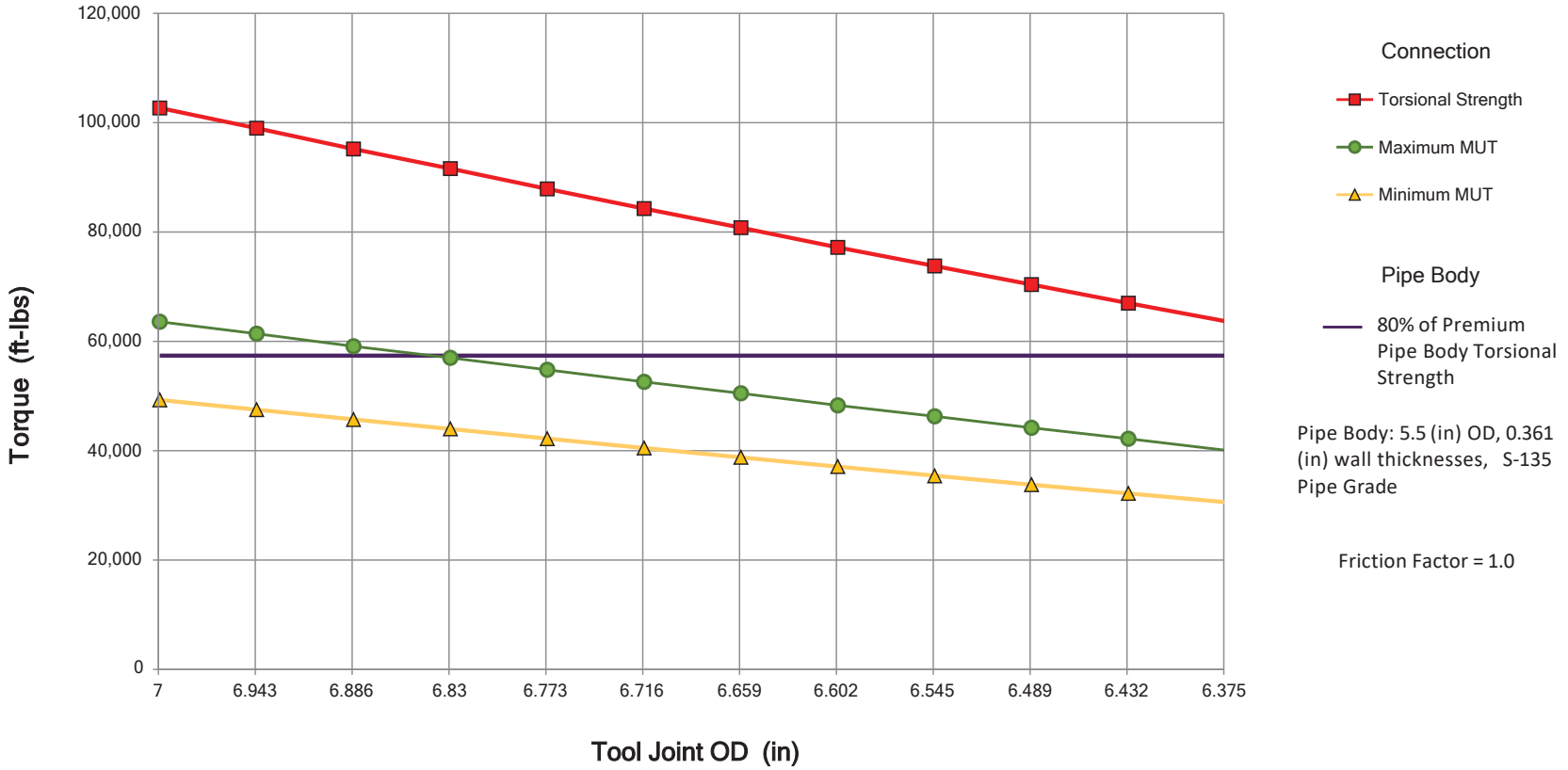
## Elevator Capacity

Elevator Bore Diameter: 5.813" Elevator SMYS: 110,100 psi Box Taper Angle: 18 deg
Connection: 5-1/2 FH EIS™ 5.5" 0.361" wall IEU S135

| Tool Joint OD (in.) | Elevator Hoist Capacity (lbs) | |
|---|---|---|
| | No Wear | 1/32" Wear Factor |
| 7.0 | 1315200 | 1283700 |
| 6.943 | 1246400 | 1214900 |
| 6.886 | 1178300 | 1146800 |
| 6.83 | 1111900 | 1080400 |
| 6.773 | 1044800 | 1013300 |
| 6.716 | 978300 | 946800 |
| 6.659 | 912400 | 880900 |
| 6.602 | 847000 | 815500 |
| 6.545 | 782200 | 750700 |
| 6.489 | 719100 | 687600 |
| 6.432 | 655400 | 623900 |
| 6.375 | 592300 | 560800 |

## Connection Wear for 5-1/2 FH EIS™-130 (7 (in) OD x 3.5 (in) ID)

Material SMYS (Specified Minimum Yield Strength) = 130,000 (psi)




Pipe Body: 5.5 (in) OD, 0.361 (in) wall thicknesses, S-135 Pipe Grade

Friction Factor = 1.0