



# WORKSTRINGS INTERNATIONAL®

"YOUR FIRST CHOICE IN DOWNHOLE TUBULAR RENTALS"

A SUPERIOR ENERGY SERVICES COMPANY

## Pipe Care and Handling - Golden Rules

### Golden Rules for Basic Drill Pipe Care and Handling

- 1) Always makeup to the recommended **MAXIMUM** makeup torque. Do **NOT** exceed recommended max makeup torque. See performance sheet.
- 2) **ADJUST** makeup torque according to thread compound friction factor (FF) greater than 1.0 FF to 1.15 FF compound. Questions? Contact Workstrings Engineering.
- 3) Connections received with **STORAGE COMPOUND** require the **COMPLETE REMOVAL** prior to the application of a running thread compound.
- 4) Be **LIBERAL** with the thread compound in the box, the base of the box and on the pin; use a copper-based or a compatible thread compound. Ensure **360 DEGREES** of coverage of the threads, torque shoulders, as well as **360 DEGREES** of coverage on the seal surfaces on completion pipe.
- 5) Stabbing guides are **MANDATORY** for all Grant Prideco dual shouldered tool joints, VAM connections and most Tenaris/Hydril connections.
- 6) Always **ENSURE** proper pipe alignment.
- 7) **MINIMIZE** clamp pressure.
- 8) **MAXIMIZE** the distance between the box shoulder and lower jaw die per OEM guidelines (1"-2" minimum for most tool joints).
- 9) When moving pipe horizontally, do it with **PROTECTORS** on the **CONNECTIONS**.
- 10) Always return drill pipe with **PLASTIC** composite thread protectors and **ADD FRESH THREAD COMPOUND** when laying down the pipe.
- 11) Consider running a **FRICTION-REDUCING** or **LUBRICATING FLUID** to reduce down-hole torque and abrasion. Drill pipe non rotating protectors are discouraged and can cause pipe damage.
- 12) Always **STOP** pipe movement before setting slips, especially while tripping in the hole.
- 13) **ENSURE** Top Drive Saver Sub pin connection are free of damage and debris.
- 14) Recommend running **WORKSTRINGS' ELEVATORS** with **WORKSTRINGS' DRILL PIPE** to ensure the **CORRECT ELEVATOR BORE** is used.
- 15) Ensure that the correct Top Drive Bell Guide is installed.

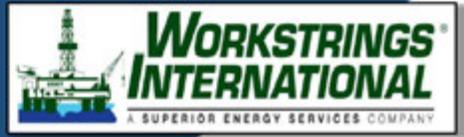
### Preventing and Troubleshooting Connection Damages

- 1) Ensure torque gauges are **CALIBRATED** correctly.
- 2) Ensure the connections are **CORRECTLY** aligned.
- 3) Break out torques greater than 90% of the original make-up torque indicate down-hole make-up and should be addressed.
- 4) Ensure the thread compound is **CLEAN, DEBRIS & WATER FREE AND APPLIED CORRECTLY**. Keep lid on compound container when not being used.
- 5) Ensure that the rig's **WEIGHT COMPENSATOR** is working properly and a minimum amount of weight is applied during connection make-up.
- 6) Use a **SLOW** rotation speed during spin-up and break-out of the first 5-6 threads. Do **NOT** exceed recommended maximum spin-up RPM as recommended per the OEM guidelines. Premium connections should start slow up to 25 RPM until proper engagement is verified then increase speed up to ~100 RPM to shoulder engagement. This may be less critical for API and GPDS™/uGPDS™/EIS™/HT™ connections, as the connection taper stabs deeper. However, following the same slow/fast spinning is a good practice.

### Hardbanding, Internal Coating and Rust Grip® External Coating

- 1) When tripping, check the condition of the **HARDBANDING** on the drill pipe.
- 2) If the hardbanding is **WORN** down flush to the tool joint, ensure the pipe does not go back in the well open hole, especially the horizontal section.
- 3) Check the **HARDBANDING** between each well and replace any that is less than 1/32" raised.
- 4) Use **TEFLON, POLYURETHANE or PLASTIC-COATED METAL DRIFTS ONLY**; metal drifts will damage internal coating.
- 5) Use **RUST GRIP®** external coating to prevent O.D. corrosion in corrosive completion fluids. **RUST GRIP®** can only be used on Workstrings' owned tubular assets.

**NOTE:** More detailed running procedures for proprietary rotary-shouldered connections are available from the OEM's website (NOV Grant Prideco, Vallourec and Tenaris), Workstrings Engineering or Workstrings' website.



*Teamwork Fair Play Respect*  
**Shared Core Values**

*Integrity  
 Safety  
 Good Community  
 Citizens*

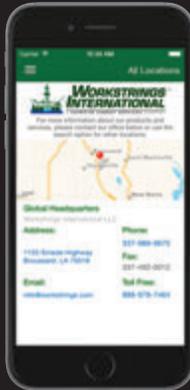
**CULTURE  
 OF SUCCESS**



*Trust But Verify  
 "TBV"*



*Think Before You Act  
 "TBYA"*



## PIPE SPECIFICATION MOBILE APP

Download the Workstrings International Pipe Specification App on the App Store<sup>SM</sup> or Google Play<sup>TM</sup>

The App allows users to access specifications for the most commonly used sizes and connections of drill pipe, landing string, HWDP, drill collars and tubing providing the option to view and email specification sheets conveniently using your mobile device.

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