

Introduction

Operators are typically unsatisfied with rig time requirements to run large OD conductor casing. Run rates of 1 to 2 joints per hour (jts./hr.) for 18 5/8" 87.50 ppf, K-55 API Buttress (API BC) Casing are not uncommon in the Marcellus and Utica formation plays. Smaller land rigs present problems with handling large diameter casing. When relatively fine, 5-pitch buttress threads are used on large diameter casing, such as 18 5/8" OD, on a small rig, the running difficulties compound. Large OD casing with API BC threads is difficult to stab and achieve proper, initial thread engagement. These combined difficulties consume considerable amounts of rig time adding significant cost in the deployment of relatively short conductor casing strings.

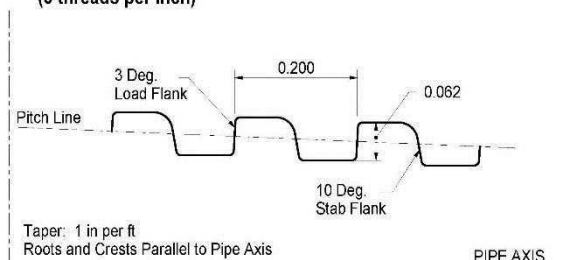
Action

GB Tubulars presented the GB 3P Connections as an alternate to API BC for large diameter conductor casing. The GB 3P uses a proprietary 3-pitch threadform for 16", 18 5/8", and 20" OD Casing. See figures for comparison between API BC and GB 3P threadforms. The GB 3P Connection is designed for deep, easy stabbing, cross-thread resistance, and faster makeup. These combined features result in typical run rates of 6 to 10 jts/hr.

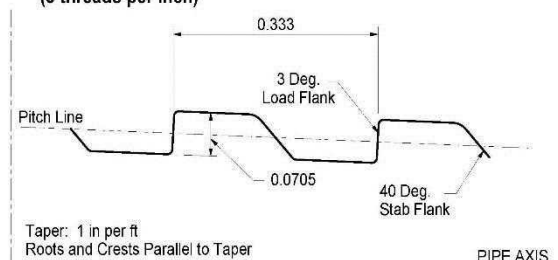
The GB 3P makes up in 6 to 10 turns from a typical rig stab. API BC often takes multiple stab attempts to assure proper thread engagement and normally takes between 8 and 12 turns for full power tight makeup.

Additionally, the GB 3P has an internal torque shoulder that provides a positive indication that power tight makeup is complete. API BC is made up to position relative to the API Triangle Stamp leaving some uncertainty about proper assembly due to machining tolerances among the mating parts.

API BTC Thread
16" OD and Larger
(5 threads per inch)



GB 3P Thread
16" OD and Larger
(3 threads per inch)



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GB Tubulars provided a thread representative to assist with running 18 5/8" OD, 87.50 ppf, K-55 Casing. The string consisting of 7 joints including API BC Float Equipment and a cross-over joint from API BC to GB 3P. The casing Run occurred on August 18, 2015.

Description of Operations

GB Tubulars representatives arrived on location at 12:00 PM. The casing was laid out on racks in preparation for running. There were 10 joints on site; one was equipped with a Float Shoe and Float Collar that were threadlocked together to avoid breakout during drill out operations. There was also a cross-over joint to change over from API BC on the float equipment to GB 3P for the remainder of the string. A total of 7 joints were used on this well.

Box thread protectors were removed, threads were cleaned, and Bestolife 2000 thread compound was applied to coupling threads per GBT Running Procedures. Pin thread protectors were removed once each joint was raised to the rig floor. Thread compound was applied accordingly to the pins before stabbing. Applied torque was measured using an analog torque gauge in ft-lbs. The casing run started at 3:00 PM and the job was complete at 4:30 PM.

Running Statistics

Seven (7) joints were run in 1 hours and 30 minutes which equates to a run rate of 4.6 jts./hr. Similar casing runs with API BC on this rig experience run rates of 1 to 2 jts./hr.

The GB 3P Connections stabbed consistently and made up without cross-threading.

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Summary

Based on the total day rate for a typical land rig and accounting for the cost difference between API BC and GB 3P Connections. The estimated total time savings for this short, conductor casing string was about 6 hours equating to an approximate deployment savings of about \$6,100.

The GB 3P ran as designed demonstrating easier stabbing, no cross threading, and faster makeup. These features provided significant savings in overall deployment costs to the Operator.