



Delta™ Connection

PRODUCT FLYER

Quail Tools & Grant Prideco™
are proud to introduce **Delta™**



Our rotary-shouldered connection products have enabled the industry to drill farther, faster and less expensive than ever before. However, performance is no longer the sole driver; customers want products that deliver performance, efficiency and economy.

Grant Prideco™ is proud to introduce Delta. The extensive development and testing of this connection focused specifically on our customer's interactions with our products. Our goal was to create a high-performance product that is easier to run, robust, and more forgiving. It is the most balanced connection we have ever put to market, and its proprietary features reduce your total cost of ownership.

We recognized that there was a void in the market for a product that offered high performance without sacrificing cost savings. Our goal was to create a connection that performs at a high level, is easy to use, and has a lower total cost of ownership than other products on the market.

With the Grant Prideco Delta connection, you no longer have to compromise.

- Grant Prideco |  NOV Wellbore Technologies

Quail Tools becomes the first in the industry to own Delta™ tubulars.

Contact our location nearest you for more information on the new Delta™ connection.

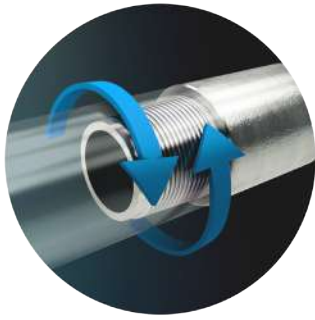
New Iberia, LA - (337) 365-8154
Victoria, TX - (361) 579-0244
Odessa, TX - (432) 366-1491
Evanston, WY - (307) 789-5860

Texarkana, TX - (903) 838-1620
Williston, ND - (701) 774-2280
Morgantown, WV - (304) 212-5191

www.quailtools.com

Grant Prideco Delta™ Connection

Performance



Balanced Thread Form

The thread form and overall geometry of this connection have been designed to achieve optimum performance.

High Strength Tool Joints

Delta is designed to be threaded on 130 ksi Specified Minimum Yield Strength material.

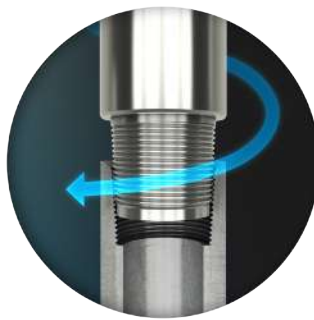
Operational Envelope Comparable to XT™

The Delta connection offers torque comparable to or higher than that provided by the XT connection. This allows for use of streamlined tool joints and improved hydraulic performance.

Better Fatigue Resistance

Through design optimization and balancing of stresses, we have further improved the fatigue resistance of our products. Delta provides better fatigue resistance than XT connections, which can result in an increased product life.

Ease of Use



Faster Makeup

Delta has significantly fewer turns from stab to makeup than comparable XT connections. This saves time and reduces the amount of wear on threads.

Deeper Stabbing

There are more threads engaged at stab, which minimizes stabbing damage because the stress on the connection is more evenly distributed.

No Stabbing Guide

Delta does not require the use of stabbing guides, making it easier to handle on the rig.

Tong Gripping

The minimum required gripping distance from the box face has been reduced to improve ease of use on the rig floor.

Total Cost



Reduced Repair Frequency

Repairs are expensive and time consuming. The field inspection tolerances for Delta have been widened without compromising performance, so you do not have to send the pipe in for repairs as often. This reduces downtime and saves you money.

More Refacing

The refacing amount for Delta was increased by 50%. More refaces can take place before a recut of the connection is needed, which saves you money and results in a longer usable life for the product.

Less Recut Loss

There is less material loss on recuts, which allows for more recuts before needing to replace the string. The tong gripping distance has also been reduced, allowing more room for recut without adversely impacting performance.

Delta™ Drill Pipe Configurations

Pipe OD (in)	Nominal Weight (lb/ft)	Grade	Connection	Tool Joint OD (in)	Tool Joint ID (in)	Recommended MUT (ft-lb)
3.500	13.30	S135	Delta 377	4.750	2.563	19,500
4.000	14.00	S135	Delta 391	4.875	2.688	21,400
4.500	16.60	S135	Delta 425	5.250	3.000	26,000
4.500	16.60	S135	Delta 494	6.250	3.250	47,800
5.000	19.50	S135	Delta 527	6.500	3.750	49,800
5.500	21.90	S135	Delta 576	7.000	4.250	59,200
5.500	21.90	S135	Delta 544	6.625	4.000	50,300
5.875	23.40	S135	Delta 576	7.000	4.250	59,200
6.625	27.70	S135	Delta 663	8.000	5.000	86,600

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