

# Grant Prideco HDD™ drill pipe

## Designed to perform

As the world leader in premium drill stem products, we offer innovative drilling solutions for the most challenging Horizontal Direction Drilling (HDD) applications. Our custom engineered products include drill pipe, heavy weight drill pipe, drill collars and accessories. We have advanced R&D and fully integrated manufacturing with facilities in the United States, Mexico, China and Singapore.

### GP HDD™ Drill Pipe

GP HDD™ drill pipe provides superior technical performance and service life, exceeding current industry standards.

Our products include:

- Proprietary upset designs to ensure stronger than the pipe weld strength in tension
- Extra-long tool joints to provide a maximum recut length for extended service life
- High strength grades for the pipe body, to allow for higher tensile performance and greater overpull safety margin in extreme drilling conditions, should it be needed
- An array of high-performance connections providing extended torque capabilities and reducing the chance of twist-offs
- Thick and robust tubes (95% Remaining Body Wall minimum) to maximize buckling resistance and allow for more tube wear prolonging service life

Grant Prideco has its own green tube mill and tool joint manufacturing, providing full traceability and quality control of products. Our proprietary tool joint manufacturing process produces tool joints that meet or exceed API specifications and tolerance requirements. Each finished drill pipe joint is inspected to guarantee visual and dimensional properties and tested to ensure proper mechanical characteristics.

### GP HDD™ Drill Pipe Configurations

The following table shows the most representative configurations utilized for HDD. For performance values or further product descriptions, please contact your local Grant Prideco Sales representative.



Nominal size, weight and grade	Connection	Tool joint OD (in.)	Tool joint ID (in.)	Max MUT (ft-lb)	Max pullback (lb)
5 in. 19.5 ppf (0.362 in.) S-135	NC-50	6 $\frac{5}{8}$	2 $\frac{3}{4}$	38,000	560,800
5 in. 19.5 ppf (0.362 in.) S-135	NC-50	6 $\frac{5}{8}$	3 $\frac{1}{4}$	30,700	560,800
5 in. 25.6 ppf (0.500 in.) S-135	NC-50	6 $\frac{5}{8}$	2 $\frac{3}{4}$	38,000	746,400
5 $\frac{1}{2}$ in. 21.9 ppf (0.361 in.) S-135	GPDS™ 55	7 $\frac{1}{4}$	3 $\frac{1}{2}$	61,200	620,600
5 $\frac{1}{2}$ in. 24.7 ppf (0.415 in.) S-135	GPDS™ 55	7 $\frac{1}{4}$	3 $\frac{1}{2}$	61,200	704,300
6 $\frac{5}{8}$ in. 27.7 ppf (0.362 in.) S-135	6 $\frac{5}{8}$ FH	8 $\frac{1}{2}$	4 $\frac{1}{4}$	65,000	760,400
6 $\frac{5}{8}$ in. 27.7 ppf (0.362 in.) S-135	GPDS™ 65-135	8 $\frac{1}{8}$	4 $\frac{1}{2}$	92,200	760,400
6 $\frac{5}{8}$ in. 27.7 ppf (0.362 in.) S-135	GPDS™ 65-135	8	4 $\frac{3}{4}$	78,700	760,400
6 $\frac{5}{8}$ in. 27.7 ppf (0.362 in.) S-135	GPDS™ 55-135	7 $\frac{1}{4}$	3 $\frac{1}{2}$	68,800	760,400
6 $\frac{5}{8}$ in. 27.7 ppf (0.362 in.) S-135	GPDS™ 55	7 $\frac{1}{2}$	3 $\frac{1}{2}$	61,200	760,400
6 $\frac{5}{8}$ in. 27.82 ppf (0.415 in.) S-135	6 $\frac{5}{8}$ FH	8 $\frac{1}{2}$	4 $\frac{1}{4}$	65,000	862,700
6 $\frac{5}{8}$ in. 34.2 ppf (0.522 in.) S-135	GPDS™ 55	7 $\frac{1}{2}$	3 $\frac{1}{2}$	61,200	1,062,400
7 in. 64.08 ppf (1.000 in.) S-135	NC77 EIS™-135	9 $\frac{3}{4}$	5	159,400	1,967,900
7 $\frac{5}{8}$ in. 33.7 ppf (0.430 in.) S-135	GPDS™ 65-135	8 $\frac{3}{8}$	4 $\frac{1}{4}$	96,900	1,037,200
7 $\frac{5}{8}$ in. 39 ppf (0.500 in.) S-135	GPDS™ 65-135	8 $\frac{3}{8}$	4 $\frac{1}{4}$	96,900	1,191,800

Customized sizes could be engineered for our customers.



### SmoothEdge™ tool joints and hardbanding solutions prolong asset life

To help protect your pipe from excessive wear during running, hardbanding can be applied on the tool joint box section, box taper or tool joint pin section. We can apply it raised, semi-raised or inlayed (flush), as desired.

To extend the life of your assets, we offer SmoothEdge tool joints, a proprietary sacrificial wear pad added to the outer pin and box for the installation of more prominent hardbanding. SmoothEdge is height adjustable to allow for customer-specific hardbanding applications. The use of SmoothEdge tool joints in conjunction with hardbanding extends the service life of your tool joints.

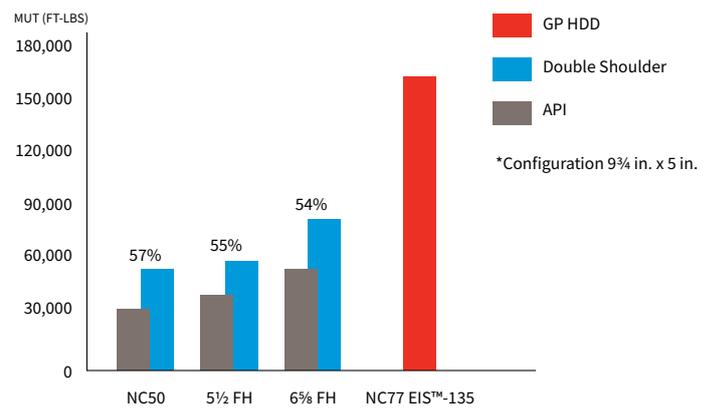
Grant Prideco also offers specialty hardbanding designed and well suited for HDD applications. With improved tungsten carbide distribution, our Halo™ hardbanding is 400% times more wear resistant than comparable industry tungsten carbide hardbandings.

### Selecting the right GP HDD™ drill pipe configuration for your project

Standard API connections have limitations in terms of torque capacity and service life, especially when installing pipelines over long crossings. When this occurs, HDD drillers turn to double shoulder connections that offer higher torque as well as improved operating service life. The GP HDD™ product line offers a full gamut of double shoulder connections with thread designs compatible with standard API connections, providing full interchangeability with API drill pipe and accessories. These double shoulder connections can be built in 135 ksi yield strength material to maximize performance.

### Performance Comparisons

Torque Performance



For ultra-challenging HDD jobs requiring additional torsional and pulling strength, Grant Prideco's NC77 EIS™-135 connection for 7 in. and above drill pipe, provides higher torque and pullback than any other API and double shoulder connection.

National Oilwell Varco (NOV) is a leading provider of technology, equipment, and services to the global energy industry that supports customers' full-field drilling, completion, and production needs. Since 1862, NOV has pioneered innovations that have improved the cost-effectiveness, efficiency, safety, and environmental impact of customer's operations

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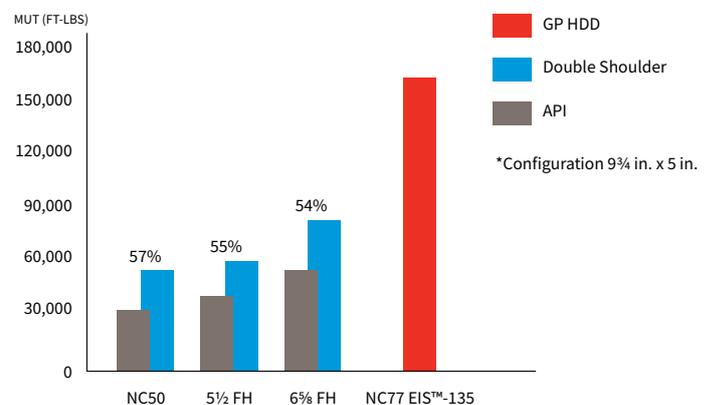
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