



Command



HDD Drill Pipe

Designed for greater drilling capabilities



With more than 60 years of experience in manufacturing Drilling equipment, COMMAND SMFI is one of the few global suppliers that supply a complete range of Drilling tubulars and also provide tailor-made solutions to meet challenges in the drilling projects and programs worldwide.

COMMAND SMFI offers the following product lines : Drill Pipe, Heavy Weight, Drill Collars, API & High-Performance connections, Drill Stem Accessories.

COMMAND SMFI's HDD drill pipe is used in the most challenging Horizontal Directional Drilling (HDD).

HDD Drill Pipe

Drill Pipe Designed to Perform

COMMAND SMFI's HDD drill pipe is designed to provide superior technical performance and service lifetime exceeding the most current industry standards.

Our HDD drill pipe is available with:

- Proprietary oversized minimum internal upset (MIU), for better fatigue resistance,
- Longer tool joints than required by API, providing a maximum re-cut capability for longer service life,
- Higher toughness specification, providing greater safety margins in extreme drilling conditions.

Each joint is inspected to guarantee visual and dimensional properties, and tested to ensure proper mechanical characteristics.

Hardbanding

HDD Drill pipe is susceptible to wear due to the rotation and sliding during drilling, reducing its performance and service life. COMMAND SMFI offers a full range of hardbanding configurations for any product and formation type.

Hardbanding is applied in COMMAND SMFI qualified plant by automatic arc-welding methods with close monitoring, resulting in a uniform, low porosity, and wear-resistant surface.

Hardbanding options:

- Can be applied on tool joint box section, box elevator taper or tool joint pin section,
- COMMAND SMFI Tungsten Carbide series and all other major alloys,
- Raised, semi-raised or flush configurations.



HDD Drill Pipe Data

The following table shows the most representative configurations utilized for HDD. For a full disclosure of configurations and connections available, please contact your local sales representative.

Nominal size	Nominal Weight	Wall Thickness	Connection	HDD Drill Pipe Assembly - New					HDD Drill Pipe Assembly - Premium Used				
				Pipe OD	Tool Joint OD	Tool Joint ID	Make-up Torque	Tensile Pullback	Pipe OD	Tool Joint OD	Tool Joint ID	Make-up Torque	Tensile Pullback
				in	in	in	ft- lbs	lbs	in	in	in	ft- lbs	lbs
5	19.50	0.362	NC50	5	6-5/8	2-3/4	38,000	712,000	4,855	6-5/16	2-3/4	28,400	561,000
5	19.50	0.362	NC50 Double Shoulder	5	6-5/8	3-1/4	48,500	712,000	4,855	5-13/16	3-1/4	30,200	561,000
5	25.60	0.500	NC50	5	6-5/8	2-3/4	38,000	954,000	4,800	6-17/32	2-3/4	35,200	746,000
5	25.60	0.500	NC50 Double Shoulder	5	6-5/8	3-1/4	48,500	954,000	4,800	6	3-1/4	35,800	746,000
5-1/2	21.90	0.361	5 1/2 FH	5-1/2	7-1/4	3-1/2	43,300	787,000	5,356	6-15/16	3-1/2	35,400	621,000
5-1/2	21.90	0.361	5 1/2 FH Double Shoulder	5-1/2	7-1/4	3-1/2	68,400	787,000	5,356	6-13/32	3-1/2	39,800	621,000
5-1/2	24.70	0.415	5 1/2 FH	5-1/2	7-1/4	3-1/2	43,300	895,000	5,334	7-1/32	3-1/2	38,900	704,000
5-1/2	24.70	0.415	5 1/2 FH Double Shoulder	5-1/2	7-1/4	3-1/2	68,400	895,000	5,334	6-13/32	3-1/2	39,800	704,000
5-7/8	23.40	0.361	5 1/2 FH	5-7/8	7-1/4	3-1/2	43,300	844,000	5,731	7-1/16	3-1/2	40,100	667,000
5-7/8	23.40	0.361	5 1/2 FH Double Shoulder	5-7/8	7-1/4	3-1/2	68,400	844,000	5,731	6-7/16	3-1/2	41,000	667,000
5-7/8	26.30	0.415	5 1/2 FH	5-7/8	7-1/4	3-1/2	43,300	961,000	5,709	7-1/4	3-1/2	43,300	757,000
5-7/8	26.30	0.415	5 1/2 FH Double Shoulder	5-7/8	7-1/4	3-1/2	68,400	961,000	5,709	6-9/16	3-1/2	45,500	757,000
6-5/8	27.70	0.362	6 5/8 FH	6-5/8	8-1/2	4-1/4	65,000	962,000	6,480	8	4-1/4	52,700	760,000
6-5/8	27.70	0.362	6 5/8 FH Double Shoulder	6-5/8	8-1/2	4-1/2	93,200	962,000	6,480	7-11/32	4-1/2	53,900	760,000
6-5/8	0.522 W	0.522	6 5/8 FH	6-5/8	8-1/2	4-1/4	65,000	1,350,000	6,416	8-1/2	4-1/4	65,000	1,060,000
6-5/8	0.522 W	0.522	6 5/8 FH Double Shoulder	6-5/8	8-1/2	4-1/2	93,200	1,350,000	6,416	7-11/16	4-1/2	70,400	1,060,000
6-5/8	0.625 W	0.625	6 5/8 FH	6-5/8	8-1/2	4-1/4	65,000	1,590,000	6,375	8-1/2	4-1/4	65,000	1,250,000
6-5/8	0.625 W	0.625	6 5/8 FH Double Shoulder	6-5/8	8	4-3/4	78,900	1,590,000	6,375	7-31/32	4-3/4	78,700	1,250,000
6-5/8	0.750 W	0.750	6 5/8 FH	6-5/8	8-1/2	4-1/4	65,000	1,870,000	6,325	8-1/2	4-1/4	65,000	1,460,000
6-5/8	0.750 W	0.750	6 5/8 FH Double Shoulder	6-5/8	8	4-1/2	86,400	1,870,000	6,325	8	4-1/2	86,400	1,460,000
6-5/8	0.813 W	0.813	6 5/8 FH	6-5/8	8-1/2	4-1/4	65,000	2,000,000	6,300	8-1/2	4-1/4	65,000	1,560,000
6-5/8	0.813 W	0.813	6 5/8 FH Double Shoulder	6-5/8	8-1/4	4-1/2	92,700	2,000,000	6,300	8-1/8	4-1/2	92,500	1,560,000
6-5/8	0.938 W	0.938	6 5/8 FH	6-5/8	8-1/2	4	71,400	2,260,000	6,250	8-1/2	4	71,400	1,750,000
6-5/8	0.938 W	0.938	6 5/8 FH Double Shoulder	6-5/8	8-1/8	3-3/4	87,200	2,260,000	6,250	8-1/8	3-3/4	87,200	1,750,000

Notes: All HDD drill pipe are in grade S-135. Other API and high strength grades are available upon request.

All HDD drill pipe listed is range 2 (31.5 ft shoulder to shoulder) unless otherwise specified.

COMMAND SMFI offers several different double shoulder connections. Contact your local representative to learn more.

Heavy Duty HDD Drill Pipe

Challenges

When installing heavy pipe lines over long crossings, torsional and pulling capabilities of the drill pipe are a limiting factor. Larger drill pipe with diameter and wall thickness above API sizes is a solution to increase the pulling and torsional capabilities. However, the friction-weld area between the tool joints and the pipe body can then become a weak point due to lack of metallurgical homogeneity. This weakness can lead to drill pipe failure during extreme reaming and pulling operations.

The Solution: Forged Drill Pipe

COMMAND SMFI offers a unique forging technology to manufacture heavy duty, friction-weld free, integral HDD drill pipe, with a diameter of 7" and above. The HDD drill pipe is manufactured in one piece by a hot forming process using a four-hammer forging machine on a cylindrical mandrel. The main advantage of this technology is to achieve any combination of pipe diameter and wall thickness with outstanding dimensional tolerances, shaped tubes, and metallurgy. This friction-weld free construction eliminates any weak point and reduces the risk of failure during operations. Forged HDD drill pipe is compatible with any standard or proprietary drill pipe connection.

To meet any project challenge the specific combination of diameter and wall thickness are manufactured on demand. For example, a forged drill pipe with a 7" OD and 1" nominal wall thickness developed for major crossing projects in North America offers 2,540,000 lbs of tensile capacity. This represents more than twice the tensile capacity of a standard API 6-5/8 drill pipe and 60% more than the biggest drill pipe available on the market.

Drill pipe with larger diameters also provides higher buckling resistance and higher hydraulic efficiency.



SUPERCO HDD

Challenges

Standard API connections have shown limitations in terms of torque capacity, service life and hydraulic efficiency, especially when installing pipe lines over long crossings.

The Solution: Double Shoulder Connections and SUPERCO HDD

Double shoulder connections offer higher torque, longer service life, and improved hydraulic performance than standard API connections. The thread design is the same as standard API connections, providing full interchangeability with API drill pipe and accessories. Tool joints are typically built in 130 ksi yield strength material to provide extra strength.

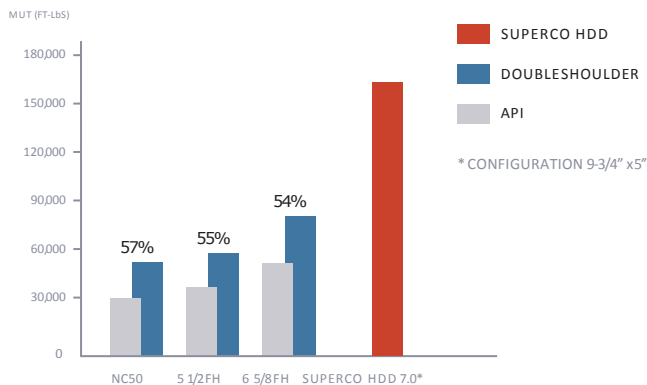
For ultra-challenging HDD jobs requiring additional torsional and pulling strength, COMMAND SMFI developed SUPERCO HDD.

SUPERCO HDD is a connection adapted to HDD drill pipe with a diameter of 7' and above; it provides higher torque than any other API and double shoulder connection, while providing the hydraulic efficiency and extended service life of a double shoulder connection.

All COMMAND SMFI connections are phosphate coated for galling and corrosion protection.

Performance Comparisons

Torque Performance



Significantly higher performance than standard API connections:

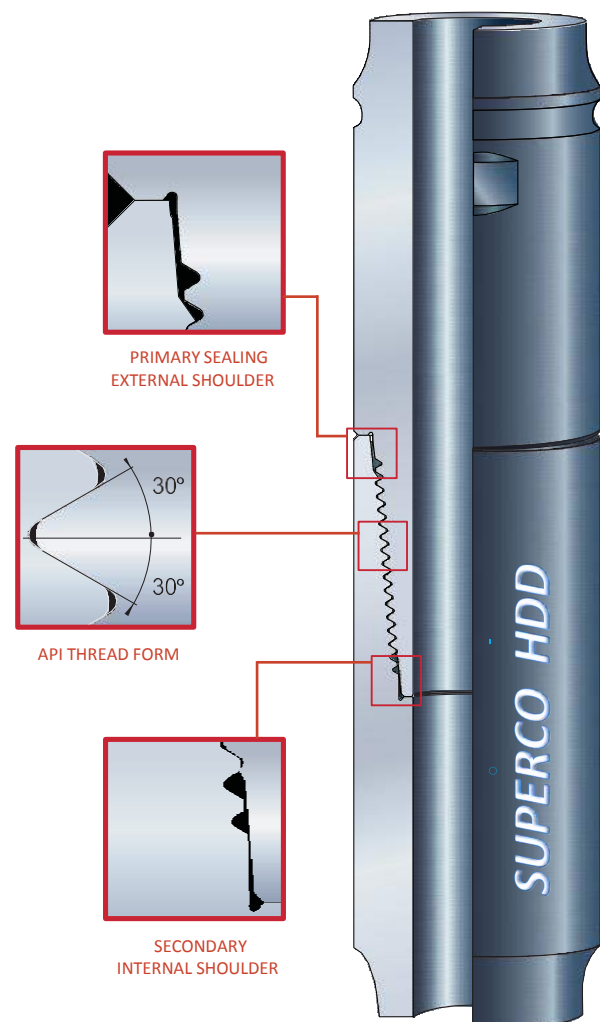
- Higher torque than standard API connections due to its secondary internal shoulder.

Longer service life:

- Increased allowable tool joint OD wear,
- Increased fatigue resistance,
- User friendly benchmark for easy maintenance.

Improved hydraulic performance:

- Allows for using smaller ODs and larger IDs while keeping constant torsional strength.



Leader in Drilling Solutions



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