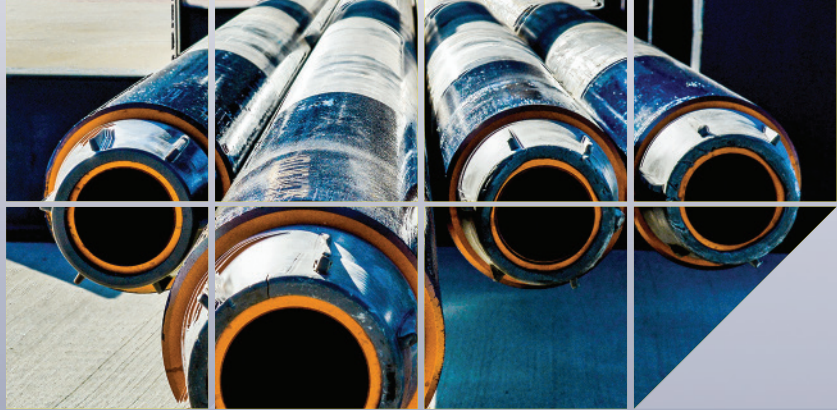


DRILL COLLARS



NON-MAGNETIC DRILL COLLARS

When drilling in areas closer to the earth's magnetic poles, it is essential to use a non-magnetic drill collar. Drilling Tools International's non-mag drill collars offer strength and hardness while neutralizing magnetic interference. Compatible with standard drill string tools and stabilizers, these non-mag drill collars are manufactured to API Spec 7-1. Inventory includes: • Slick • Flex • Spiral • Pony

Drilling Tools treats its non-mag material ID with a shot peening operation to compress the inside diameter which prevents stress corrosion while drilling in H2S environments.

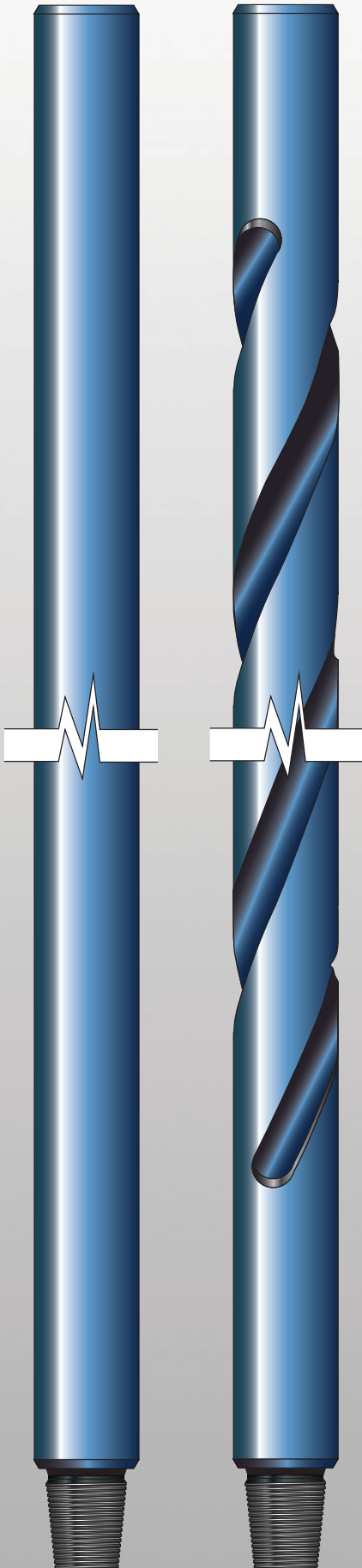
- Resistant to stress corrosion in sour gas environments
- Compatible with standard drill string tools and stabilizers
- Spiraling available on request

MECHANICAL PROPERTIES

Room Temperature. ASTM A 370							
Drill Collar OD Range (in)	Min. Yield Strength		Min. Tensile Strength		Min. Elongation %	Impact Test CHARPY V. notch	
	MPa	PSI	MPa	PSI		J (min.)	ft-lbs.(min.)
2 3/4" through 3 7/8"	827	120 000	896	130 000	16		
4" through 6 7/8"	758	110 000	827	120 000	18	81	60
7" through 11"	689	100 000	758	110 000	20		

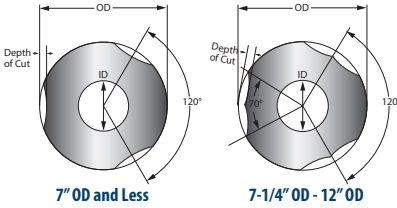
SPECIFICATIONS

Common Connections	OD (in)	ID (in)	Approximate Weight (lbs)
2 7/8 Reg	3 1/2 to 3 7/8"	1 1/4 to 1 3/4"	760–1114
3 1/2 Reg	4 1/8 to 4 1/2"	1 1/4 to 2 1/4"	989–1490
3 1/2 IF NC38	4 3/4 to 5 1/2"	1 3/4 to 2 13/16"	1350–2250
4 FH NC40	5 to 6"	1 3/4 to 2 13/16"	1552–2726
4 1/2 FH	5 1/2 to 6 1/2"	2 to 3"	1759–3166
4 1/2 XH NC 46	5 3/4 to 6 3/4"	2 1/4 to 3"	1992–3352
4 1/2 IF NC 50	6 1/4 to 7 1/2"	2 1/4 to 3 1/4"	2359–4237
5 1/2 FH NC 56	7 to 7 3/4"	2 1/4 to 3 1/4"	3182–4552
6 3/8 Reg	7 1/4 to 8"	2 1/2 to 3 1/4"	3476–4780
6 3/8 FH	7 1/2 to 8 1/4"	2 1/2 to 3 1/4"	3782–5116
7 3/8 Reg	8 1/2 to 9 1/2"	2 1/2 to 3 3/4"	4816–6953



NON-MAGNETIC
SLICK
DRILL COLLAR

NON-MAGNETIC
SPIRAL
DRILL COLLAR



STEEL DRILL COLLARS

Used to add weight to the bit and stiffness to bottom hole assembly, Drilling Tools' drill collars are an invaluable downhole tool.

To keep operations drilling in the right direction, run our drill collars in combination with our stabilizers to resist buckling. Manufactured from

an AISI 4145H modified heat treated alloy steel, Drilling Tools' strict quality assurance guidelines assure metallurgical integrity of each and every bar.

Drilling Tools' drill collar bars are batch or continuous line heat treated and have both cold-worked and phosphate coated connections.

We can provide you with the technical assistance necessary to assist you in properly using drill collars in the bottom hole assembly.

- Stress relieved connections
- Spiraling on OD (RH standard)
- Hardbanding
- Slip and elevator recesses
- Manufactured to DS-1 specifications

MECHANICAL PROPERTIES

Room Temperature. ASTM 4145 H Modified							
Drill Collar OD Range (in)	Min. Yield Strength		Min. Tensile Strength		Min. Elongation %	Impact Test CHARPY V. notch J (min.) ft-lbs(min.)	Hardness (Brinell) HBN
	MPa	PSI	MPa	PSI			
3 1/8" through 6 7/8"	758	110 000	965	140 000	13	54 40	285-341
7" through 11"	689	100 000	930	135 000			

STANDARD SPECIFICATIONS FOR SLICK OR SPIRAL DRILL COLLARS

O.D. (in)	I.D. (in)	Weight in Air (lbs)	Unit Weight (lbs/ft)	Standard End Connections
3 1/2"	1 1/2"	826.8	26.7	NC-26 thru 35
4 1/8"	2"	1076.2	34.7	NC-31 thru 41
4 3/4"	2 1/4"	1447.0	46.7	NC-38 thru 47
5"	2 1/4"	1648.5	53.2	NC-38 thru 50
6"	2 1/4"	2558.0	82.5	NC-44 thru 60
6"	2 13/16"	2322.3	74.9	NC-44 thru 60
6 1/4"	2 1/4"	2811.2	90.7	NC-44 thru 62
6 1/4"	2 13/16"	2575.6	83.1	NC-46 thru 65
6 1/2"	2 1/4"	3074.8	99.2	NC-46 thru 65
6 1/2"	2 13/16"	2839.1	91.6	NC-46 thru 65
6 3/4"	2 1/4"	3348.7	108.0	NC-46 thru 67
7"	2 1/4"	3632.9	117.2	NC-50 thru 70
7"	2 13/16"	3397.2	109.6	NC-50 thru 70
7 1/4"	2 13/16"	3691.8	119.1	NC-50 thru 72
8"	2 13/16"	4637.5	149.6	6 5/8 Reg
8 1/4"	2 13/16"	4973.4	160.4	6 5/8 Reg
9 1/2"*	3"	6718.0	216.7	7 5/8 Reg
9 3/4"*	3"	7116.0	229.5	7 5/8 Reg
11"*	3"	9260.6	298.7	8 5/8 Reg

*low torque face available

RECOMMENDED SLIP AND ELEVATOR RECESS DIAMETERS FOR DRILL COLLARS

Collar O.D. (in)	Elevator Recess Dia (in)	Slip Recess Dia (in)	Elevator Recess Radius (in)	Top Elevator Bore (in)	Lower Half Elevator Bore (in)
4 1/8"	3 11/16"	3 3/4"	1/8"	3 13/16"	4 1/4"
4 3/4"	4 1/4"	4 3/8"	1/8"	4 3/8"	4 7/8"
5"	4 1/2"	4 5/8"	1/8"	4 5/8"	5 1/8"
6"	5 3/8"	5 1/2"	1/8"	5 1/2"	6 1/8"
6 1/4"	5 5/8"	5 3/4"	1/8"	5 3/4"	6 3/8"
6 1/2"	5 7/8"	6"	1/8"	6"	6 5/8"
6 3/4"	6"	6 1/4"	3/16"	6 3/16"	6 7/8"
7"	6 1/4"	6 1/2"	3/16"	6 7/16"	7 1/8"
7 1/4"	6 1/2"	6 3/4"	3/16"	6 11/16"	7 3/8"
8"	7 1/4"	7 1/2"	3/16"	7 7/16"	8 1/8"
8 1/4"	7 1/2"	7 3/4"	3/16"	7 11/16"	8 3/8"
9 1/2"	8 5/8"	9"	1/4"	8 7/8"	9 5/8"
9 3/4"	8 7/8"	9 1/4"	1/4"	9 1/8"	9 7/8"
11"	10 1/8"	10 1/2"	1/4"	10 3/8"	11 1/8"

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Drilling Tools International, Inc. is a leading provider of downhole tools to the land and offshore drilling markets. For nearly 40 years our company has been guided by the principals of Strength, Innovation and Performance. We consistently deliver world class customer service while providing quality products that meet the demanding drilling applications of today's market.

Our Quality Management System is certified in compliance to ISO 9001, and API Spec Q1 and our manufacturing is licensed to API Spec 7-1. Our Quality Management System governs all of our processes from planning, to process control, to delivery. This ensures that we consistently manufacture products that not only meet API standards but also meet the ever-changing needs of our customers.