



DRILL COLLARS

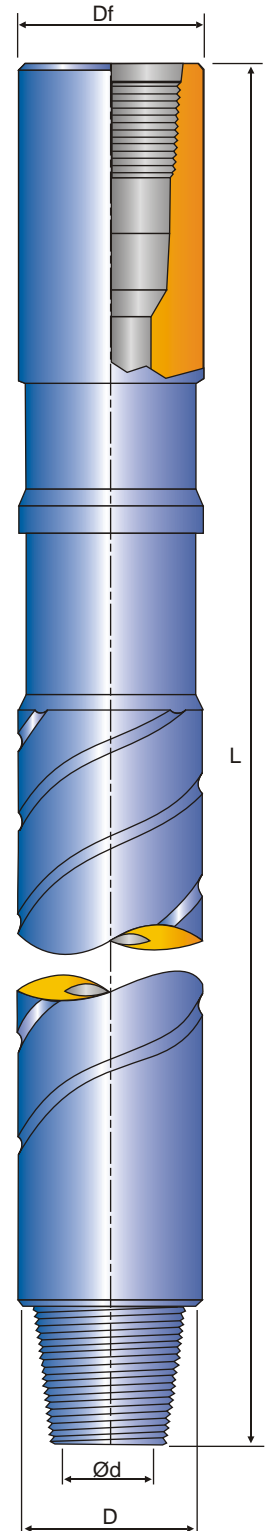
PARVEEN drill collars, are made from ultrasonically tested bars of Chrome Molybdenum Alloy Steel (AISI 4145H modified material) and available in all sizes and connections as per API std 7 & API-RP 7G in Range 2. Drill collar bars are fully heat treated to 285 to 341 BHN and Charpy impact value of 40 ft. Lb.

Physical Properties

Drill Collar O.D. Range (inches)	Yield Strength (min) (psi) (n/mm ²)	Tensile Strength (min) (psi) (n/mm ²)	Elongation (min) With Gage Length 4 Times Diameter	Brinell Hardness (min.)	Min. Charpy Impact Value Ft Lb.
3.1/8 THRU 6.7/8	110000 /758	140000 /965	13%	285	40
7 THRU 10	100000 /689	135000 /931	13%	277	40

Drill Collars can be furnished in sizes and dimensions given in the table below.

Drill Collar Number	Outside Dia D"	Bore +1 /16" -0 d"	Length +6" L'	Bevel Dia ±1 /64" D"f	Reference Bending Strength Ratio
NC 23-31	3.1/8	1.1/4	30	3	2.57:1
NC 26-35 (2.3/8 IF)	3.1/2	1.1/2	30	3.17/64	2.42:1
NC 31-41 (2.7/8 IF)	4.1/8	2	30 or 31	3.61/64	2.43:1
NC 35-47	4.3/4	2	30 or 31	4.33/64	2.58:1
NC 38-50 (3.1/2 IF)	5	2.1/4	30 or 31	4.49/64	2.38:1
NC 44-60	6	2.1/4	30 or 31	5.11/16	2.49:1
NC 44-60	6	2.13/16	30 or 31	5.11/16	2.84:1
NC 44-62	6.1/4	2.1/4	30 or 31	5.7/8	2.91:1
NC 46-62 (4 IF)	6.1/4	2.13/16	30 or 31	5.29/32	2.63:1
NC 46-65 (4 IF)	6.1/2	2.1/4	30 or 31	6.3/32	2.76:1
NC 46-65 (4 IF)	6.1/2	2.13/16	30 or 31	6.3/32	3.05:1
NC 46-67 (4 IF)	6.3/4	2.1/4	30 or 31	6.9/32	3.18:1
NC 50-70 (4.1/2 IF)	7	2.1/4	30 or 31	6.31/64	2.54:1
NC 50-70 (4.1/2 IF)	7	2.13/16	30 or 31	6.31/64	2.73:1
NC 50-72 (4.1/2 IF)	7.1/4	2.13/16	30 or 31	6.43/64	3.12:1
NC 56-77	7.3/4	2.13/16	30 or 31	7.19/64	2.70:1
NC 56-80	8	2.13/16	30 or 31	7.31/64	3.02:1
6.5/8 REG.	8.1/4	2.13/16	30 or 31	7.45/64	2.93:1
NC 61-90	9	2.13/16	30 or 31	8.3/8	3.17:1
7.5/8 REG.	9.1/2	3	30 or 31	8.13/16	2.81:1
NC 70-97	9.3/4	3	30 or 31	9.5/32	2.57:1
NC 70-100	10	3	30 or 31	9.11/32	2.81:1
8.5/8 REG.	11	3	30 or 31	10.1/2	2.84:1





DRILL COLLARS

PARVEEN provides three kinds of Drill Collars. These are:

1. Slick. 30 to 31 feet length.
2. Spiral. 30 to 31 feet length.
3. Short Drill Collars upto 20' length.

Following special Drill Collars features are also available on request:

1. API stress relief grooves in pin & box.
2. API bore back box.
3. API slip & elevator recesses.
4. Cold rolled thread roots.
5. Drill collar hard banding.
6. Phosphatising end connections.
7. Thread protectors for box & pin.

A. STRESS RELIEF GROOVES

Stress relief Grooves at pin and box end reduce fatigue failure.

BORE BACK BOX

Bore back box is nothing but gradual reduction of internal dia by gradually increasing material cross sectional area at critical section. This will ultimately reduce drastically stress concentration during Static / Dynamic loading and prevents box connections from failure.

B. COLD ROLLED THREAD ROOTS

The cold working on thread roots of the Drill Collars thru inducing compressive stresses with the help of externally loaded roller will increase life of Drill Collar by protecting against bending stress in fatigue.

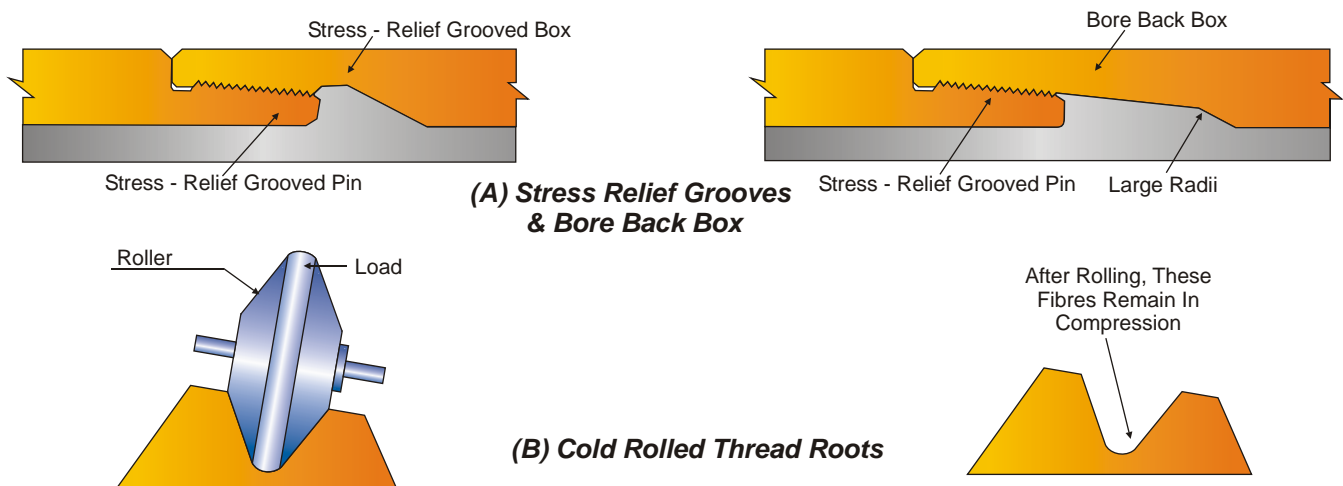
C. DRILL COLLAR HARD BANDING

Hard banding a Drill collar increases the life of Drill Collar while drilling in an abrasive medium. In hard banding, granular tungsten carbide is deposited upto 1/32" (0.8 mm) above Drill Collar O.D. by metal arc, inert gas shielded welding with controlled preheating & post heating.

NOTE: Hard Banding at other locations are also catered upon request

SHORT DRILL COLLARS

Short Drill Collars are made to suit material, sizes, properties & features as specified above except the length is smaller. Short Drill Collars in various lengths are available in slick or spiral. Standard Short Drill collar lengths are 10, 12, 15.1/2 & 20 ft. long. For Dimensions, please refer to main Drill Collar section.





DRILL COLLARS

a. DRILL COLLAR GROOVE FOR ELEVATOR AND SLIP (AS PER API-7G)

It is possible to add elevator and slip recess to PARVEEN Drill Collar. These recesses allow one to dispense with lift subs and safety clamps and to attain savings in operating time. Recommended Slip & Elevator recess dimensions are given below:

DRILL COLLAR SLIP AND ELEVATOR DIMENSIONS

O.D. Ranges	A	R	C	B	D
4 ~ 4.5/8	7/32	1/8	4°	3/16	3.1/2°
4.3/4 ~ 5.5/8	1/4	1/8	5°	3/16	3.1/2°
5.3/4 ~ 6.5/8	5/16	1/8	6°	1/4	5°
6.3/4 ~ 8.5/8	3/8	3/16	7.1/2°	1/4	5°
8.3/4 & Larger	7/16	1/4	9°	1/4	5°

A- ELEVATOR GROOVE

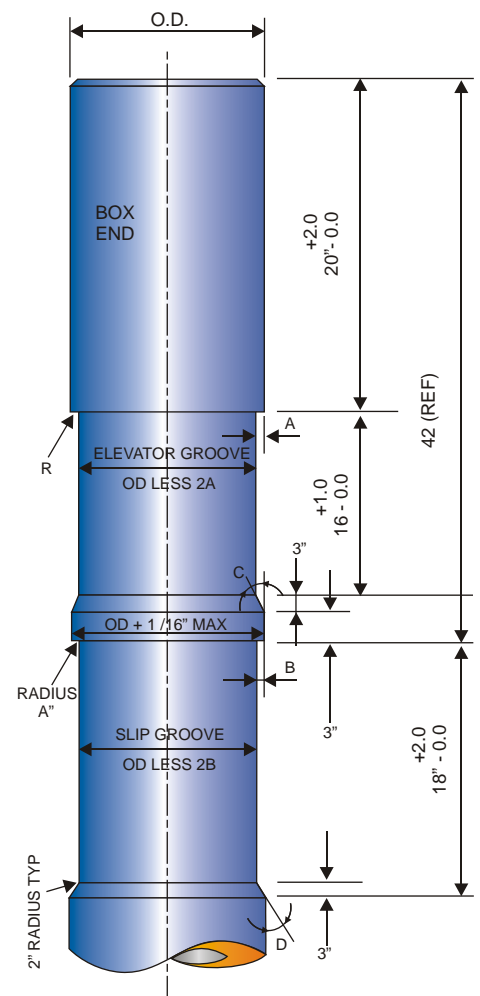
B- SLIP GROOVE

b. SPIRAL DRILL COLLARS

Minimize the potential for differential sticking with PARVEEN's Spiral Drill Collars. They reduce the amount of contact between the drill collar and the wall of hole.

DRILL COLLAR SPIRAL DIMENSIONS

O.D. Ranges	Depth Of Cut	Spirals	Pitch / Direction Rh
4.1/2 ~ 5.1/8	7 /32 ^{± 1/32}	3	38 ^{± 1}
5.1/4 ~ 5.3/4	1 /4 ^{± 1/32}	3	42 ^{± 1}
5.7/8 ~ 6.3/8	9 /32 ^{± 1/16}	3	42 ^{± 1}
6.1/2 ~ 6.7/8	5 /16 ^{± 1/16}	3	46 ^{± 1}
7	5 /16 ^{± 1/16}	3	64 ^{± 1}
7.1/8 ~ 7.7/8	11 /32 ^{± 1/16}	3	64 ^{± 1}
8 ~ 8.7/8	3 /8 ^{± 1/16}	3	68 ^{± 1}
9 ~ 9.7/8	13 /32 ^{± 3/32}	3	72 ^{± 1}
10 ~ 10.7/8	7 /16 ^{± 3/32}	3	76 ^{± 1}
11 ~ 12	15 /32 ^{± 3/32}	3	80 ^{± 1}



* All dimensions are in inches U.O.S.