SCHOELLER BLECKMANN OILFIELD TECHNOLOGY

Data sheet P 670

Revision 1

1. CHEMICAL COMPOSITION

„P670“ is a special nonmagnetic, austenitic Cr-Ni-Mn -steel with a high nitrogen content

C	Mn	Cr	Ni	Mo	N
max. 0,06	19,5-22,0	19,5-22,0	8,50-10,00	min 2,20	min. 0,60

2. MECHANICAL PROPERTIES

Following mechanical properties (tested at room temperature) are achieved by a special cold-working process over the full length of the collar:

Yield Strength (min.):	OD up to $9^1/_4$“	160 ksi	1103 N/mm²
0,2%-offset method	OD $9^1/_2$“ and larger	150 ksi	1034 N/mm²
Tensile Strength (min.):		170 ksi	1172 N/mm²
Elongation (min.):		20%	20%
Reduction of area (min.):		50%	50%
Impact energy (min.):		80 ft.lb	108 J
Endurance Strength / N=10^5 (min.):		± 80 ksi	± 550 N/mm²
Hardness Brinell:		350-450 HB	350-450 HB

3. MAGNETIC PROPERTIES

Relative permeability: ≤ 1,005.

4. CORROSION RESISTANCE

- **Transgranular SCC:** Prevented by special surface treatments (Hammer peening, roller burnishing, shot peening).
- **Intergranular SCC:** The occurrence of material sensitization is prevented by quenching after warmforging. Each collar is tested according to ASTM A 262, Pract.A and E, last edition.
- **Pitting Corrosion:** Due to a high chromium-, molybdenum- and nitrogen content a excellent resistance to pitting corrosion is given.

5. NON-DESTRUCTIVE TESTING

- **Magnetic inspection:** Drill collars are 100% tested by a proprietary probe-testing process using a Förster Magnetomat 1.782. (“Hot Spot“-test). Magnetic permeability of each collar is certified with the printout of probe-testing.
- **Ultrasonic inspection:** Each collar is ultrasonically inspected over 100% of the volume according to ASTM E 114, last edition as a minimum level.

P670 Non-Magnetic Drill Collars meet all requirements of API Spec. 7.1, last edition.
All tests are carried out according to ASTM-Standards, last editions.
Prepared / released:
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