

Data sheet P 530 HS

Revision 11

1. CHEMICAL COMPOSITION

„P530 HS“ is a special nonmagnetic, austenitic Mn-Cr-N-steel with a Nickel-content of $\leq 2\%$.

| C | Mn | Cr | Mo | N | Ni |
|-----------|-------------|-------------|-----------|-----------|-----------|
| max. 0,05 | 18,50-20,00 | 13,00-14,00 | 0,40-0,60 | 0,25-0,40 | max. 2,00 |

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 " | 120 ksi | 830 N/mm ² |
| 0,2%-offset method | OD 9 ¹ / ₂ " and larger | 110 ksi | 760 N/mm ² |
| Tensile Strength (min.): | | 130 ksi | 900 N/mm ² |
| Elongation (min.): | | 25% | 25% |
| Reduction of area (min.): | | 50% | 50% |
| Impact energy (min.): | | 90 ft.lb | 122 J |
| Hardness Brinell: | | 285-365 HB | 285-365 HB |

3. MAGNETIC PROPERTIES

Relative permeability: $\leq 1,001$.

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.

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.

6. GALLING RESISTANCE

„P530 HS“ is due to the chemical composition and the special coldworking process less susceptible to galling than Cr-Ni steels.

P530 HS 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.
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