

023580

95500 (9").



DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

QMS Certified

EN10204/3.1

Contract No.: 50005
 TECHN. PROTOCOL № 210-06 SPEC. № 0713/PO22275
 ASTM A182/A182M-05; ASME SA-182/SA-182M-04; ASTM A276-04;
 ASTM A479/A479M-04; ASTM SA-479/SA-479M-04; ASTM A484/A484M-05; AMS-QQ-S-763A-03
 Cond. A; NACE MR 0175-2003; AMS 5648K-02; AMS 5653F-02; ASTM A193/A193M-04c GR B8M, CL1 (EXC PAR 6.3)
 ASME SA-193/SA-193M-04 GR B8M, CL1 (EXC PAR 6.3);

Sheets: 8 Sheet: 6
 QUALITY CERTIFICATE Nr. 239780
 PLANT ORDER № 8014900713

CUSTOMER
 „DSS INTERNATIONAL SA“
 Switzerland

PRODUCT DESCRIPTION
 Bars and rods of corrosion-resistant (stainless) steel forged, peeled
 Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные
 STEEL MAKING PROCESS: EAF+AOD
 СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР
 Round 9.00in/228.60 mm L=5.37m/17.61ft
 Grade: 316/F316/316L/F316L

QUANTITY: Round Q-3990 lb/1810kg
 (number of pcs)

Delivery condition
 solution annealed: 1900-2010°F (1040-1100°C)/water
 термообработка: закалка в воду

| ANALYSES, % | C | Si | Mn | P | S | Cr | Ni | Mo | Al | Cu | V | W | Ti | Co | Nb | N ₂ |
|--------------|-------|-------|-----------|-------|-----------|-------------|-------------|-----------|------|------|------|------|------|------|------|----------------|
| REQUIRED | <.030 | <1.00 | 1.25-2.00 | <.040 | .020-.030 | 16.00-18.00 | 10.00-14.00 | 2.00-3.00 | <.10 | <.40 | <.10 | <.20 | <.15 | <.40 | <.20 | <.10 |
| HEAT № 95500 | .022 | .28 | 1.42 | .035 | .022 | 17.02 | 10.80 | 2.03 | .074 | .26 | .04 | .20 | .072 | .10 | .021 | .026 |

| MECHANICAL PROPERTIES „ASTM A370-08a“ | Yield Strength, Ksi(MPA) | Tensile Strength, Rm,ksi (N/mm ²) | Elongation in 2 inches (50mm) or 4D, min, % (ASTM A370) | Reduction of area, % | Brinell Hardness HB | Impact strength, KV, J |
|---------------------------------------|--------------------------|---|---|----------------------|---------------------|------------------------|
| REQUIRED | 36(248) | 75 (515) | 45 | 50 | 140-223 | 100 |
| EFFECTIVE | 40.6(279) | 83.7(575) | 54 | 75 | 167 | 275 |

TECHNICAL REQUIREMENTS:
 Macrostructure - GOOD
 GRAIN SIZE: 5 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)

| | | | |
|------|-------|------|-------|
| A | B | C | D |
| thin | thick | thin | thick |
| 2.0 | 2.0 | 2.0 | 1.0 |
| 0.0 | 0.0 | 0.0 | 1.0 |

 ICC-ASTM A262-02a (Method E)-test: O.K.
 „Dimension/surface defects test, anti-mixing test - O.K.“
 Ratio of reduction-6.98:1

Mechanical properties tested in state of delivery

US - testing yes Results: SEP 1921, 3/ Cc - O.K.

Manufacturer: JSC DNEPROSPETSSTAL
 Date: 09.11.10 Signed: *[Signature]*
 V. Kapalic
 Zaporozhyc
 Made in Ukraine.

Radiation free; mercury free. No Weld or Weld repair.

