

94493

C001568



DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

QMS Certified

Contract No.: 07149
 TECHN. PROTOCOL № 210-06 SPEC. № 4730/PO19485
 ASTM A182/A182M-05; ASME SA-182/SA-182M-04; ASTM A276-04;
 ASTM A479/A479M-04; ASTM E 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, CLI;
 ASME SA-193/SA-193M-04GR B8M, CLI;

Sheets: 6 Sheet: 2
QUALITY CERTIFICATE EN10204/3.1 Nr. 228294
 PLANT ORDER № 8071494730

CUSTOMER
 „DSS INTERNATIONAL SA“
 Switzerland

PRODUCT DESCRIPTION
 Rods of corrosion-resistant (stainless) steel forged, peeled.
 Прутки из коррозионноустойчивых (нержавеющих) сталей кованные, обточенные.
STEEL MAKING PROCESS: EAF+AOD
СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР
 Round 9.000in/228.60 mm L=3.83m/12.56ft L=3.89m/12.75ft L=3.57m/11.70ft
 Grade: 316/F316/316L/F316L

1bund Q-2855 lb/1295 kg
QUANTITY: 1bund Q-2888 lb/1310 kg
 (number of pcs) 1bund Q-2679 lb/1215 kg

Delivery condition
 solution annealed : 1900-2010° F(1040-1100° C)/water/16 minytes
 термообработка: закалка в воду /16 мин.

| 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 | | |
| CAST № 94493 | .024 | .25 | 1.33 | .037 | .028 | 16.79 | 10.30 | 2.05 | .057 | .27 | .04 | .13 | .095 | .074 | .01 | .028 | | |

ASTM A370-08a

| MECHANICAL PROPERTIES | Yield Strength, Ksi(N/mm ²) Re (R _{0.2}) | Tensile Strength, Rm, ksi (N/mm ²) | Elongation in 2 inches (50mm) 4D, min % (ASTM A370) | Reduction of area, Z, % | Brinell Hardness HB | Impact strength, KV, J |
|-----------------------|---|--|---|-------------------------|---------------------|------------------------|
| REQUIRED | 36(248) | 75 (515) | 45 | 50 | 140-223 | 100 |
| EFFECTIVE | 37.1(255) | 78.3(538) | 63 | 79 | 159 | 243 |

TECHNICAL REQUIREMENTS:
 Macrostructure – GOOD
 GRAIN SIZE : 4 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)

| | | | |
|------|-------|------|-------|
| A | B | C | D |
| thin | thick | thin | thick |
| 1.5 | 1.0 | 1.5 | 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- 7.96:1

Mechanical properties tested in state of delivery

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

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

Manufacturer: JSC DNEPROSPETSSTAL
 Date: 10.12.09 Signed:
 Zaporozhye
 Made in Ukraine.

