

HT# A01061

C114275

**PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE**

Contract No.: 20002

TECHN.PROTOCOL № 390-11 SPEC.№ 3734/P033051-ED  
 DIN EN 10088-3-05; DIN EN 10272-08; AD 2000-Merkblatt W2; AD 2000-Merkblatt W10; ASTM A182/A182M-10; ASME SA-182/SA-182M-10; ASTM A276-10; ASTM A314-08; ASTM A479/A479M-10; ASME SA-479/SA-479M-10; ASTM A484/A484M-10; AMS-QQ-S-763-B-06 Cond. A; AMS 5648K-07; AMS 5653F-07; ASTM A193/A193M-10GR B8M, CL1 (EXC PAR 7.2); ASME SA-193/SA-193M-10 GR B8, CL 1 (EXC PAR 7.3); NACE MR 0175-03; NACE MR 0103-10

Sheets: 7 Sheet: 3  
 INSPECTION CERTIFICATE EN10204/3.1 Nr.286788  
 PLANT ORDER № 8014905734



GMS Certified

CUSTOMER  
**DSS INTERNATIONAL**  
 SA Switzerland

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line. Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.  
**STEEL MAKING PROCESS: EAF+AOD**  
**СПОСОБ ВЫПЛАВКИ: Электродуговая плавка + АКР**  
 Round 6.250m/158.75 mm L=4.860m/15.934ft L=4.970m/16.295ft  
 Grade: 316/316L/1.4401/1.4404

QUANTITY: 1bund Q-3417 1b/1550 kg  
 (number of pcs) 1bund Q-3505 1b/1590 kg  
 Delivery condition  
 solution annealed : 1900°F(1040°C) water 30minutes  
 термомодификация: закалка в воду

| ANALYSIS, %   | C     | Si    | Mn        | P      | S         | Cr          | Ni          | Mo        | Al   | Cu  | V    | W    | Ti   | Co  | Nb   | N <sub>2</sub> | Sn   | B     |
|---------------|-------|-------|-----------|--------|-----------|-------------|-------------|-----------|------|-----|------|------|------|-----|------|----------------|------|-------|
| REQUIRED      | <0.30 | <1.00 | 1.20-2.00 | <0.040 | 0.15-0.30 | 16.50-18.00 | 10.00-13.00 | 2.00-2.50 | <1.0 | <40 | <1.0 | <2.0 | <1.5 | <40 | <2.0 | <1.0           |      |       |
| CAST № A01061 | .020  | .40   | 1.34      | .039   | .023      | 17.17       | 10.30       | 2.07      | .072 | .22 | .04  | .08  | .008 | .09 | .01  | .027           | .010 | .0011 |

DIN EN 10002-1, ASTM A370-09

| MECHANICAL PROPERTIES | Yield Strength, (N/mm <sup>2</sup> )<br>R <sub>0.2</sub> % R 1.0% | Tensile Strength, (N/mm <sup>2</sup> )<br>R <sub>m</sub> | Elongation           |                                    | Reduction of area, Z%, L | Brinell Hardness HB | Impact strength, KV, J     |   |
|-----------------------|---|--|----------------------|------------------------------------|--------------------------|---------------------|----------------------------|---|
|                       |   |  | A <sub>5</sub> % L Q | In 2 inches (50mm) or 4D, min, % L |                          |                     | L                          | Q |
| REQUIRED              | 205   | 240  | 40 -                 | 40                                 | 50                       | 140-217             | 100                        |   |
| EFFECTIVE             | 323<br>314  | 340<br>331   | 556<br>558           | 60 -                               | 60 -                     | 163<br>163          | 277 275 280<br>273 270 273 |   |

Mechanical properties tested in state of delivery

US - testing Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09) - FBH1/8", EN 10308 type 1a, class 3.0K

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

Manufacturer: PJSC DNIPROSPETSSTAL  
 Date: 05.08.14 Manager of quality assurance department - V. Kapaleva  
 Signed:   
 Zaporozhye  
 Made in Ukraine.

**TECHNICAL REQUIREMENTS:**

Macrostructure - GOOD  
 GRAIN SIZE : 5 to ASTM E 112-96(2004)  
 Nonmetallic inclusions ASTM E 45-05 (Method A)  
 A thin thick thin thick thin thick  
 2.0 2.0 2.0 1.0 0.0 0.0 1.0 1.0  
 ICC-ASTM A262-08 (practice E)-test: OK.  
 Dimension/surface defects test, anti-mixing test - OK