

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

**A00826**

C 110847

Contract No.: 20002  
 TECHN.PROT.GCOI № 390-11 SPEC.№ 3734/P033051-ED  
 DIN EN 10088 3 05 DIN EN 10272 08 DIN EN 10222 5-00 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-763B-06  
 Cond.A:AMS 5648K-07:AMS 5653F-07:ASTM A193/A193M-10GR B8M/CL1:ASME SA-193/SA-193M-10GR B8 CL 1:ASTM A320/A320M-08 GR B8M/CL 1:ASME SA-320/SA-320M-10 GR B8 CL1:NACE MR 0175-03:NACE MR 0103-10

**CUSTOMER**

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Трутки из коррозионностойких (нержавеющих) сталей кованые, обточенные.  
**STEEL MAKING PROCESS: EAF+AOD**  
**СПОСОБ ВЫПЛАВКИ: Электродуговая печь+AOP**  
 Round 18.750m/476.25 mm L=2.76m/9.049 ft;  
 Grade: 316/316L/1.4401/1.4404

**QUANTITY:** 1bund Q-8836 1b/4008 kg (number of pcs)  
**Delivery condition**  
 solution annealed :1904° F(1040° C) water 44minutes  
 термодобработка: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    |
|----------------------|-------|-------|-----------|-------|-----------|-------------|-------------|-----------|------|------|------|------|------|------|------|----------------|------|------|
| <b>REQUIRED</b>      | <.030 | <1.00 | 1.20-2.00 | <.040 | .015-.030 | 16.50-18.00 | 10.00-13.00 | 2.00-2.50 | <.10 | <.40 | <.10 | <.20 | <.15 | <.40 | <.20 | <.10           |      |      |
| <b>CAST № A00826</b> | .019  | .35   | 1.29      | .034  | .025      | 16.67       | 10.17       | 2.07      | .058 | .22  | .06  | .15  | .005 | .11  | .023 | .030           | .011 | .001 |

**MECHANICAL PROPERTIES**


DIN EN 10002-1,ASTM A370-09

|                  | 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 % | Brinell Hardness HB | Impact strength, KV, J |                            |                      |
|------------------|--|---|------------|----------------------------------|------------------------|---------------------|------------------------|----------------------------|----------------------|
|                  |  |   | A% L Q     | In 2 inches (50mm) or 4D min.% L |                        |                     | L                      | Q                          |                      |
| <b>REQUIRED</b>  | 205  | 240   | 45-35      | 40                               | 50                     | 140-217             | 100                    | 60                         |                      |
| <b>EFFECTIVE</b> | 293<br>295   | 331<br>334  | 586<br>590 | 59.54<br>58.55                   | 56<br>55               | 77<br>79            | 170<br>174             | 175 184 189<br>178 193 190 | 62 63 61<br>61 62 62 |

**Mechanical properties tested in state of delivery**

US - testing      yes      Results: ASME SA-388/SA-388M-10/ASTM A 388/A 388M-09)-FBH1/S°:EN 10228-4 type Ia;class 3:OK

**TECHNICAL REQUIREMENTS:**  
 Macrostructure - GOOD  
 GRAIN SIZE : 5 to ASTM E 112-96(2004)  
 Nonmetallic inclusions ASTM E 45-05 (Method A)  
 A      B      C      D  
 thin thick thin thick thin thick thin thick  
 3.0 2.0 2.0 1.5 0.0 0.0 1.0 1.0  
 ICC-ASTM A262-08 (practice E)-test: O.K.  
 Dimension/surface defects test, anti-mixing test - OK

Manufacturer: PJSC DNIPROSPETSSTAL  
 Date: 20.07.14      Manager of quality assurance department - V. Kapateva  
 Signed:   
 Zaporozhye  
 Made in Ukraine.

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