

CAUTION

PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE



Contract No.: 20002
 TECHN.PROTOCOL № 390-11 SPEC.№7683/PO42853-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-10 GR 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

INSPECTION CERTIFICATE EN10204/3.1 Nr.329505
 PLANT ORDER № 8014907683



GMS Certified

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 18.750in/476.25 mm L=11.049 ft/3.370m

Grade: 316/316L/1.4401/1.4404

QUANTITY:

(number of pcs) **1bund Q-10776 lb/4888 kg**

Delivery condition

solution annealed :1922° F(1050° C)water 42minutes
 термообработка:закалка в воду

| ANALYSIS, % | C | Si | Mn | P | S | Cr | Ni | Mo | Al | Cu | V | W | Ti | Co | Nb | N | Sn | B |
|---------------|-------|-------|-----------|-------|-----------|-------------|-------------|-----------|------|------|------|------|------|------|------|------|-------|-------|
| REQUIRED | <.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 | | |
| CAST № A05572 | .022 | .44 | 1.29 | .040 | .027 | 16,78 | 10.14 | 2.09 | .079 | .26 | .03 | .05 | .005 | .09 | .01 | .030 | .0082 | .0027 |

DIN EN 10002-1,ASTM A370-09

| MECHANICAL PROPERTIES | Yield Strength, (N/mm ²) R0.2% R 1.0% | | Tensile Strength, Rm, (N/mm ²) | Elongation | | Reduction of area, Z % L | Brinell Hardness HB | Impact strength, KV, J | |
|-----------------------|--|-----|--|------------|-------------------------------------|-----------------------------|---------------------|------------------------|----------|
| | L | Q | | A5% L Q | In 2 inches (50mm) or 4D,min,% L | | | L | Q |
| REQUIRED | 205 | 240 | 515-690 | 45 35 | 40 | 50 | 140-223 | 100 | 60 |
| EFFECTIVE | 290 | 312 | 590 | 61 54 | 59 | 73 | 174 | 197 197 197 | 64 64 64 |

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 |
| 2.5 | 2.0 | 2.5 | 2.0 | 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

We acknowledge that the delivered products conform to the requirements of the order/Подтверждаем, что поставленная продукция соответствует требованиям заказа

Mechanical properties tested in state of delivery

US - testing yes Results: ASTM A388/A388M-FBH1/5";EN 10228-4 type Ia;class 3:OK

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

Manufacturer:PrJSC DNIPROSPETSSTAL
 Date: 22.01.18 Manager of quality assurance department - V. Kapaieva
 Signed:
 Zaporozhye
 Made in Ukraine.