



HT# A06143

C220886

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PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE


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|  | Contract No.: 20002 TECHN.PROTOCOL № 390-11 SPEC.№ 9728/P044311 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-10 GR 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 | Sheets:5 Sheet: 2 INSPECTION CERTIFICATE EN10204/3.1 Nr.335801 PLANT ORDER № 8014909728 |
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|  | 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 15.000in/381.00 mm L= 8.344 ft/2.545m Grade: 316/316L/1.4401/1.4404 | QUANTITY: 1bund Q-5212 lb/2364 kg (number of pcs) Delivery condition solution annealed :1940° F(1060° C)water 30minutes термообработка: закалка в воду |
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| 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 № A06143 | .018 | .48 | 1.42 | .040 | .026 | 16,71 | 10.20 | 2.08 | .075 | .29 | .05 | .08 | .009 | .11 | .015 | .028 | .013 | .0022 |

| DIN EN 10002-1, ASTM A370-09 | | | | | | | | | | TECHNICAL REQUIREMENTS: Macrostructure – GOOD GRAIN SIZE : 5 to ASTM E 112-96(2004) Nonmetallic inclusions ASTM E 45-05 (Method A) <table style="width: 100%; text-align: center;"> <tr> <td>A</td><td>B</td><td>C</td><td>D</td><td>A</td><td>B</td><td>C</td><td>D</td> </tr> <tr> <td>thin</td><td>thick</td><td>thin</td><td>thick</td><td>thin</td><td>thick</td><td>thin</td><td>thick</td> </tr> <tr> <td>3.0</td><td>2.0</td><td>2.0</td><td>1.0</td><td>0.0</td><td>0.0</td><td>1.0</td><td>1.0</td> </tr> </table> 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 Ratio of reduction-5.6:1 | | | | | | | | | | A | B | C | D | A | B | C | D | thin | thick | thin | thick | thin | thick | thin | thick | 3.0 | 2.0 | 2.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 |
|------------------------------|--|------|--|------------|---------------------------------------|----------------------------|---------------------|------------------------|-------------|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|------|-------|------|-------|------|-------|------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| A | B | C | D | A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| thin | thick | thin | thick | thin | thick | thin | thick | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.0 | 2.0 | 2.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 140-217 | 100 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EFFECTIVE | 280 | 301 | 580 | 61 | 54 | 59 | 75 | 170 | 190 190 190 | 64 64 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Mechanical properties tested in state of delivery

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| US - testing | yes | Results: ASTM A388/A388M-FBIII/5"; EN 10228-4 type 1a; class 3:OK | Manufacturer: PrJSC DNIPROSPETSSTAL Date: 12.07.18 Manager of quality assurance department - V. Kapaieva Signed:  Zaporozhye Made in Ukraine. |
| Radiation free; mercury free. No Weld or Weld repair. | | | |