



PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|---|-----------------------------|---------------------|------------------------|-----------|-------|------|------|------|------|------|---|------|------|-------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|-------|------|-------|------|-------|------|-------|------|-------|--|--|--|--|--|--|--|--|--|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|
|  | Contract No.: 20002 TECHN.PROTOCOL № 390-11 SPEC.№4721/PO47340 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:11 INSPECTION CERTIFICATE EN10204/3.1 Nr.351763 PLANT ORDER № 8014904721 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| |  QMS Certified | CUSTOMER DSS INTERNATIONAL SA Switzerland | PRODUCT DESCRIPTION Bars and 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 11.000in/279.40 mm L=4.570m/14.984ft L=4.590m/15.049ft Grade: 316/316L/1.4401/1.4404 | QUANTITY: (number of pcs) 1bund Q-5040 lb/2286 kg 1bund Q-5071 lb/2300 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 № A07839 | .021 | .38 | 1.30 | .035 | .024 | 16.85 | 10.25 | 2.05 | .065 | .35 | .06 | .07 | .005 | .16 | .01 | .030 | .010 | .0023 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | A ₅ % L Q | In 2 inches (50mm) or 4D, min, % L | | | L | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | REQUIRED | 205 | 240 | 45 | 35 | 40 | 50 | 140-217 | 100 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EFFECTIVE | 280 | 304 | 61 | 54 | 58 | 77 | 174 | 190 | 190 | 190 | 65 | 65 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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%; border-collapse: collapse;"> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">B</td> <td style="text-align: center;">C</td> <td style="text-align: center;">D</td> <td colspan="14"></td> </tr> <tr> <td style="text-align: center;">thin</td> <td style="text-align: center;">thick</td> <td style="text-align: center;">thin</td> <td style="text-align: center;">thick</td> <td style="text-align: center;">thin</td> <td style="text-align: center;">thick</td> <td style="text-align: center;">thin</td> <td style="text-align: center;">thick</td> <td style="text-align: center;">thin</td> <td style="text-align: center;">thick</td> <td colspan="9"></td> </tr> <tr> <td style="text-align: center;">2.0</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">0.0</td> <td style="text-align: center;">0.0</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">1.0</td> <td colspan="10"></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 Ratio of reduction-7.4:1 | | | | | | | | | | | | | | | | | | A | B | C | D | | | | | | | | | | | | | | | thin | thick | thin | thick | thin | thick | thin | thick | thin | thick | | | | | | | | | | 2.0 | 2.0 | 2.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | | | | | | | | | | |
| A | B | C | D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| thin | thick | thin | thick | thin | thick | thin | thick | thin | thick | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.0 | 2.0 | 2.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mechanical properties tested in state of delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| US - testing | yes | Results: ASTM A388/A388M-FBH1/5"; EN 10228-4 type 1a; class 3:OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radiation free; mercury free. No Weld or Weld repair. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date: 29.11.19 Manager of quality assurance department - V. Kapaieva Signed: Zaporozhye Melted and Produced in Ukraine. MELTED and MANUFACTURED PrJSC " Dniprospetsstal" Phone number +380612834255 e-mail: info@dss.com.ua http://www.dss-ua.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

P.O. # 5738 Part # 08-FOE-40 Description: 8" CPA 50E S-40 316 S/s

INS