



93249

E20121
 DSRB 0129

DS 51989007

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|---|---|--|--|
|  <p>JSC DNEPROSPETSSTAL YUZHNOYE SHOSSE 69008, ZAPOROZHYE UKRAINE</p> |  | Purchase order No.: 07234 TECHN. PROTOCOL № 210-06 SPEC. A4707 1.22105 ASTM A182/A182M-05; ASME SA-182 SA-182M-01; ASTM A276-04; ASTM A479/A479M-04; ASTM SA-479 SA-479M-04; ASTM A441/A441M-03; AMS 20-S-3434-03 Com. A. NACE MR 0175-2000; AMS 3216K-02; AMS 3651F-02; ASTM A173/A173M-04c (GR 10M, C1.1) ASME SA-193 SA-193M-04c (GR BRM, C1.1) | Sheets: 8 Sheet: 6 QUALITY CERTIFICATE EN102043.1 Nr. 210303 PLANT ORDER № 8072340707 |
| | | PRODUCT DESCRIPTION Rods of corrosion-resistant (stainless) steel, forged peeled. Прутки из коррозионноустойких (нержавеющих) сталей кованые обточенные. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 20.000in/508.00 mm L=2.54m Grade: 316/F316/316L/F316L | QUANTITY: (number of pcs) 1bund Q-9193 lb/4170 kg |
| CUSTOMER „DSS INTERNATIONAL SA Switzerland Commodity code RB6L2000-BO | | Delivery condition solution annealed : 1900-2010° F(1040-1100° C)/water термообработка: закалка в воду | |

| ANALYSES, % | C | Si | Mn | P | S | Cr | Ni | Mo | Al | Cu | V | W | Ti | Co | Nb | N ₂ | | |
|--------------|-------|-------|-----------|-------|-----------|-------------|-------------|-----------|------|------|------|------|------|------|------|----------------|--|--|
| REQUIRED | <.030 | <1.00 | 1.25-2.00 | <.040 | .020-.030 | 16.00-18.00 | 10.00-14.00 | 2.00-3.00 | <.10 | <.40 | <.10 | <.20 | <.15 | <.40 | <.20 | <.10 | | |
| CAST № 93249 | .022 | .36 | 1.36 | .040 | .027 | 16.97 | 10.18 | 2.30 | .079 | .40 | .04 | .09 | .10 | .086 | .010 | .033 | | |

| MECHANICAL PROPERTIES | Yield Strength, Ksi(N/mm ²) Re (R _{0.2}) | Tensile Strength, Rm,ksi (N/mm ²) | Elongation A ₅ % | Reduction of area, Z % | Brinell Hardness HB | Impact strength, KV, J |
|-----------------------|---|---|-----------------------------|------------------------|---------------------|------------------------|
| REQUIRED | 30(205) | 75 (515) | 45 | 50 | 140-223 | 100 |
| EFFECTIVE | 40.9(281) | 78.6(540) | 62 | 75 | 159 | 198 |

TECHNICAL REQUIREMENTS:
 Macrostructure - GOOD
 GRAIN SIZE: 5 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)

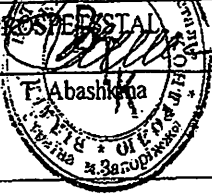
| A | | B | | C | | D | |
|------|-------|------|-------|------|-------|------|-------|
| thin | thick | thin | thick | thin | thick | thin | thick |
| 2.0 | 2.0 | 2.0 | 1.5 | 0.0 | 0.0 | 1.0 | 1.0 |

 ICC-ASTM A262-02a(Method E)-test: O.K.
 „Dimension/surface defects test, anti-mixing test - O.K.“
 Ratio of reduction-6.0
 NOTE:
 The customer confirms that the above ststed requirements to chemical composition, dimensions, mechanical properties, packing, marking and inspection certificate comply with the specification SS1 Rev3

Heat treatment (specimen) Delivery condition: In state of delivery

US - testing yes Results: SEP 1921, 3/Cc - O.K.

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

Manufacturer: JSC DNEPROSPETSSTAL
 Date: 14.04.08 Signed: 
 Zaporozhye
 Made in Ukraine.

