

94332



DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

OHS Certified

Contract No.: 07339
 TECHN. PROTOCOL № 267-07 SPEC. № 4454/P00956
 : AD 2000-Merkblatt WO/TRD 110.97/23/EG(DGR1.)
 DIN EN 10088-3, DIN EN 10272, ASTM A182/A182M-05, ASME SA-182/SA-182M-04, ASTM A276-04, ASTM A314-97(2002), ASTM A479/A479M-04, ASME SA-479/SA-479M-04, ASTM A484/A484M-05, AMS-QQ-S-763A-03 Cond. A QQ-S-763F, NACE MR 0175, AMS 5648K-02, AMS 5653F-02, ASTM A193/A193M-04c GR 88M, CL 1, ASME SA-193/SA-193M-04 GR 88M, CL 1, ASTM A314-97(2002), QQ-S-763F, NACE MR 0175, EN 10088-3

Sheets: 7 Sheet: 7
QUALITY CERTIFICATE EN10204/3.1Nf.226746
 PLANT ORDER № 8073394454

CUSTOMER
 DSS INTERNATIONAL SA
 Switzerland

PRODUCT DESCRIPTION
 Rods of corrosion-resistant (stainless) steel forged, peeled.
 Ступки из коррозионноустойчивых (нержавеющих) сталей кованые, обточенные.
STEEL MAKING PROCESS: Electric furnace
 СПОСОБ ВЫПУСКА: Электроплавочная печь
 Round 330.20 mm/13.00/in L=5.45m/17.87 ft
 Grade: 316/316L/1.4404

QUANTITY:
 (number of pcs) round 0.8399 lb/3810 kg

Delivery condition
 Heat-treated (solution annealing 1020-1100° water)
 С термич.обработкой (отжиг в воде 1020-1100°)

| ANALYSES, % | C | Si | Mn | P | S | Cr | Ni | Mo | Al | Cu | V | W | Ti | Co | Nb | N ₂ | Sn | B |
|--------------------------|-------|-------|-----------|-------|-------|-------------|-------------|-----------|------|------|------|------|------|------|------|----------------|-------|-------|
| REQUIRED | <.030 | <1.00 | 1.25-2.00 | <.040 | <.030 | 16.50-18.00 | 10.00-13.00 | 2.00-2.50 | <.10 | <.40 | <.10 | <.20 | <.15 | <.40 | <.20 | <.10 | | |
| CAST № 94332 ✓ | .021 | .49 | 1.43 | .038 | .025 | 16.90 | 10.20 | 2.05 | .062 | .27 | .04 | .14 | .065 | .07 | .017 | .026 | .0072 | .0012 |

T.19B

| MECHANICAL PROPERTIES | Yield Strength, N/mm ² (KSI) | | Tensile Strength, Rm, N/mm ² (KSI) | Elongation, % | | Reduction of area, Z, % | Brinell Hardness HB | Impact strength, KV, J | Hardness in supplied condition |
|-----------------------|---|-------------------|---|---------------|----|-------------------------|---------------------|------------------------|--------------------------------|
| | R _{0.2} | R _{0.01} | | A | G | | | | |
| REQUIRED | 205 | 240 | 515-690 | 40 | 50 | | Max 215 | 100 | 140-241 |
| EFFECTIVE | 273 (40) | 292 (43) | 557(82) | 48 | 59 | | 167 | 170 159 140 | 305 |

Mechanical properties tested in state of delivery

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 |
| 2,5 | 2,5 | 2,0 | 0 |
| 0 | 0 | 1,0 | 1,0 |

 ICC-DIN 50914(EN 114, EN ISO 3651-2)-test: O.K.
 "Anti-mixing test-O.K."
 „Dimension test and surface defects test is accomplished”

US - testing yes Results: «ASTM A 388/A 388M FBH 1/5”»

Manufacturer: JSC DNEPROSPETSSTAL
 Date: 19.10.09 Signed:

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

Zaporozhye
 Made in Ukraine.

