

93688

DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZH'YE 69008, UKRAINE

Contract No: 07149
 TECHN. PROTOCOL № 210-06 SPEC. M2445/PO16248
 ASTM A182/A182M-03; ASME SA-182/SA-182M-04; ASTM A276-04;
 ASTM A479/A479M-04; ASTM SA-479/SA-479M-04; ASTM A484/A484M-03; AMS-QQ-S-763A-03
 Cond.A; NACE MR 0175-2000; AMS 5648K-02; AMS 5633F-02; ASTM A193/A193M-04c GR B8M, CL1;
 ASME SA-193/SA-193M-04GR B8M, CL1 NACE MR 0175

Sheets: 7 Sheet: 6
 QUALITY CERTIFICATE EN10204/3.1N.216943
 PLANT ORDER № 8071492445

CUSTOMER
 „DGS INTERNATIONAL SA“
 Switzerland

PRODUCT DESCRIPTION
 Rods of corrosion-resistant (stainless) steel, forged, peeled
 Прутки из коррозионноустойчивых (нержавеющих) сталей кован. обточен.
STEEL MAKING PROCESS: EAF+AOD
СПОСОБ ВЪПЛАВКИ: Электродуговая печь+АКР
 Round 14.75/400.05 mm L=3.85m
 Grade: 316F316/316L/F316L

QUANTITY: 1 bund Q-8752 lb/3970kg
 (number of pcs)

Delivery condition
 solution annealed :1900-2010°F(1040-1100°C)/water="24 minutes"
 термообработка: зжвалка 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 № 93688	.030	.28	1.44	.040	.025	16.61	10.80	2.04	.066	.31	.04	.20	.112	.08	.012	.032

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm ²) Re (R _{eL})	Tensile Strength, Rm(kN) (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	37.6(258)	76.1(523)	60	71	156	220

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
 3.0 2.0 1.5 1.0 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-5,2 : 1

Mechanical properties tested in state of delivery

US - testing	yes	Results: SEP 1921, 3/ Cc - O.K.
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Manufacturer: JSC DNEPROSPETSSTAL
 Date: 16.09.08 Signed:

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

Zaporozh'ye
 Made in Ukraine.



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