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DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

Contract No.: 07149
 TECHN.PROTOCOL № 210-06 SPEC.№2445/PO16248
 ASTM A182/A182M-05; ASME SA-182/SA-182M-04; ASTM A276-04;
 ASTM A479/A479M-04; ASTM SA-479/SA-479M-04; ASTM A484/A484M-05; AMS-QQ-S-763A-03
 Cond.A; NACE MR 0175-2000; AMS 5648K-02; AMS 5653F-02; ASTM A193/A193M-04c GR B8M, CL1 ;
 ASME SA-193/SA-193M-04GR B8M, CL1 NACE MR 0175

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

CUSTOMER
 „DSS 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 ВЫПЛАВКИ: Электродуговая печь + АКП
 Round 18.75in 476.25 mm L=2.90m
 Grade: 316/F316/316L/F316L

QUANTITY: 1bund Q-9259 lb/4200kg
 (number of pcs)

Delivery condition
 solution annealed : 1900-2010° F (1040-1100° C) / water-“29 minutes”
 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 № 93754	.028	.36	1.65	.038	.027	16.70	10.22	2.01	.084	.27	.04	.13	.012	.07	.01	.058		

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm ²) Re (R _{e2})	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	36.3(249)	78.2(537)	55	75	159	252

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 2.5 2.0 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-4.64:1

Mechanical properties tested 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: 16.09.08 Signed: _____
 Zaporozhye
 Made in Ukraine.



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