

93321

(1 of 1)
2008-08-11
Shipper#: U81556
Cust Part#:

WB2582 PL: 399450

	JSC DNEPROSPETSSTAL YUZHNOYE SHOSSE 69008, ZAPOROZHYE UKRAINE		Purchase order No.: 07152 TECHN. PROTOCOL № 210-06 SPEC. № 121.1.00000 ASTM A182/A182M-03; ASME SA-182 SA-182M-04; ASTM A276-04 ✓ ASTM A276/A276M-04; ASME SA-479 SA-479M-04; ASTM A314 A314M-05 AMS-QQ-S-352A-03 Cond. A; NACE MR 0175-3000; AMS 5613K-02; AMS 5631F-02 ASTM A193A 193M-04C GR B8M, CL1 ASME SA-193 SA-193M-04GR B8M, CL1	Sheets: 4 Sheet: 1
CUSTOMER „DSS INTERNATIONAL SA Switzerland Customer's item number 11411005			PRODUCT DESCRIPTION Rods of corrosion-resistant (stainless) steel, forged peeled. Прутки из коррозионностойких (нержавеющих) сталей кованные обточенные. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 11.000m/279.40 mm L=3.91m L=3.96m L=3.96m L=4.09m Grade: 316/F316/316L/F316L	QUALITY CERTIFICATE EN 10204-3.1 Nr. 210301 PLANT ORDER № 8071521281
			QUANTITY: (number of pcs)	1bund Q-4321 lb/1960 kg 1bund Q-4365 lb/1980 kg 1bund Q-4387 lb/1990 kg 1bund Q-4519 lb/2050 kg
			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 № 93321 *	.020	.33	1.49	.039	.025	16.53	10.12	2.02	.086	.30	.03	.09	.114	.10	.010	.044

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	44,1(304)	78(538)	61	75	159	210

TECHNICAL REQUIREMENTS:
 Macrostructure - GOOD
 GRAIN SIZE: 4 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)
 A B C D
 thin thick thin thick thin thick thin thick
 2.5 1.5 2.0 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-8,08
 NOTE:
 The customer confirms that the above stated requirements to chemical composition, dimensions, mechanical properties, packing, marking and inspection certificate comply with the specification SS1 Rev3.

This report is a copy of original mill certificate and verifies that the product meets the requirements as originally ordered by Energy Steel Products.

DATE: 7/8/08 VERIFIED BY: [Signature]

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: [Signature]
 Zaporozhye
 Made in Ukraine.



Verified by ThyssenKrupp Materials NA, Anna Riggs
 Quantity: 52 PC
 Cust PO#: 72861
 Customer: NEXXA INDUSTRIES LTD.