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PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 50005
 TECHN. PROTOCOL № 390-11 SPEC. № 1144/P030989-ED
 DIN EN 10088-3-05, DIN EN 10272-08, AD 2000-Merkblatt W2; AD 2000-Merkblatt W 0; ASTM A182/A182M-10; ASME SA-182/SA-182M-10; ASTM A276-10; ASTM A314-08, ASTM A479/A479M-10; ASME SA-479/SA-479M-10; ASTM A484/A484M-10; AMS-QQ-S-763B-06 Cond. A; AMS 5648K-07; AMS 5653F-07; ASTM A193/A193M-10 GR B8M, CL1; ASME SA-193/SA-193M-10 GR B8, CL 1; ASTM A320/A320M-08 GR B8M, CL 1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10

Sheets: 7 Sheet: 3
QUALITY CERTIFICATE EN10204/3.1 Nr. 276129
 PLANT ORDER № 8014901144

CUSTOMER
 DSS INTERNATIONAL
 SA Switzerland

PRODUCT DESCRIPTION
 Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line. Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.
STEEL MAKING PROCESS: EAF+AOD
СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР
 Round 6.250in/158.75 mm L=4.730m/15.508ft
 Grade: 316/316L/1.4401/1.4404

QUANTITY:
 (number of pcs) **1bund Q-6662 lb/3022 kg**

Delivery condition
 solution annealed :1900°F(1040°C) water 30minutes
 термообработка: закалка в воду

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N ₂	Sn	B
REQUIRED	<.030	<1,00	1.20-2.00	<.040	.015-.030	16.50-18.00	10.00-13.00	2.00-2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
CAST Heat# № 99668	.023	.39	1.26	.036	.024	17,00	10,20	2,05	.055	.27	.05	.09	.005	.08	.01	.028	.011	.0011

DIN EN 10002-1, ASTM A370-09

MECHANICAL PROPERTIES	Yield Strength, (N/mm ²) R0.2% R 1.0%		Tensile Strength, Rm, (N/mm ²)	Elongation		Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J	
	L	Q		As % L	In 2 inches (50mm) or 4D, min, % L			L	Q
REQUIRED	205	240	515-700	40	40	50	140-217	100	
EFFECTIVE	288 288	303 308	560 563	58 58	57 58	73 73	163 163	295 295 295 291 288 288	

Mechanical properties tested in state of delivery

TECHNICAL REQUIREMENTS:
 Macrostructure – GOOD
 GRAIN SIZE : 5 to ASTM E 112-96(2004)
 Nonmetallic inclusions ASTM E 45-05 (Method A)
 A B C D
 thin thick thin thick thin thick thin thick
 2.0 2.0 2.0 2.0 0.0 0.0 1.0 1.0
 ICC-ASTM A262-08 (practice E)-test: O.K.
 Dimension/surface defects test, anti-mixing test – OK.

US - testing yes Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09)-FBH1/8"; EN 10308 type 1a; class 3:OK

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

Manufacturer: PJSC DNIPROSPETSSTAL
 Date: 04.09.13 Manager of quality assurance department - V. Kapaieva
 Signed: *[Signature]*
 Zaporozhye
 Made in Ukraine.

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