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 ASA PO 78302 WO 6006 + 6021 CPA 3 FOEL 40

166"

093188

**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, AD2000-Merkblatt W2; AD 2000-Merkblatt W10; 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: 6 Sheet: 1  
 QUALITY CERTIFICATE EN10204/3.1 (Nr. 276345)  
 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 коррозионно-стойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.  
**STEEL MAKING PROCESS:** EAF+AOD  
 СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР  
 Round 5.250m/133.35 mm L=4.660m/15.279ft  
 Grade: 316/316L/1.4401/1.4404

QUANTITY:  
 (number of pcs) 1bund Q-6830 lb/3098 kg

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

12/10/13

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N <sub>2</sub>	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# № 99729	.026	.30	1.35	.033	.024	16,73	10,25	2,06	.063	.27	.05	.07	.005	.12	.01	.034	.011	.0011

DIN EN 10002-1, ASTM A370-09

MECHANICAL PROPERTIES	Yield Strength, (N/mm <sup>2</sup> ) R0.2% R 1.0%		Tensile Strength, Rm, (N/mm <sup>2</sup> )	Elongation		Reduction of area, Z, % L	Brinell Hardness HB	Impact strength, KV, J	
	L	Q		A, %	In 2 inches (50mm) or 4D, min, % L			L	Q
REQUIRED	205	240	515-700	40	40	50	140-217	100	
EFFECTIVE	303 309	318 322	575 573	60 60	58 58	73 73	167 167	288 288 292 295 295 297	

**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  
 3.0 2.0 2.0 1.5 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

Mechanical properties tested in state of delivery

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

Manufacturer: PJSC DNIPROSPETSSTAL  
 Date: 12.09.13 Manager of quality assurance department - V. Kapaieva  
 Signed: *[Signature]*  
 Zaporozhye  
 Made in Ukraine.

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

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