

lpc

CO47913

94921 (13<sup>th</sup>) CPA-012

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**DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE**

Contract No.: 07339  
 TECHN.PROTOCOL № 237-06 SPEC.№6057/P0099  
 .. AD 2000-Merkblatt WO/TRD 100(DGRL)97/23/EG"  
 AD2000-Merkblatt W2, AD2000-Merkblatt W10  
 "DIN EN 10222-5, DIN EN 10088-3, DIN EN 10272, ASTM A 276, ASTM A 479, ASME SA-479"  
 DIN EN 10088-3, DIN EN 10222-5, DIN EN 10272, ASTM A182/A182M-05, ASME SA-182/A182M-04, ASTM A276-04, ASTM A 314-97(2002), ASTM A479/A479M-04, ASME SA-479/SA-479M-04, ASTM A484/A484M-05, AMS-QQ-S-763A-03 Cond.A, QQS-763F Cond.A, NACE MR 0175, AMS 5648K-02, AMS 5653F-02, ASTM A193/A193M-04c GR B8M, CL 1, ASME SA-193/SA-193M-04 GR B8M, CL 1, ASTM A320/A320M-08 GR B8M, CL 1, ASME SA-320/SA-320M-04 GR B8M, CL 1

EN10204/3.1  
 Sheets: 9 Sheet: 9  
 QUALITY CERTIFICATE Nr.233086  
 PLANT ORDER № 8073396057

**CUSTOMER**  
 „DSS INTERNATIONAL SA“  
 Switzerland

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel, forged peeled .  
 Прутки из коррозионностойких (нержавеющих) сталей кованные обточенные.  
**STEEL MAKING PROCESS:** Electric furnace  
**СПОСОБ ВЫПЛАВКИ:** Электродуговая печь.  
 Round 13.00in/330.20 mm L=3.95m  
 Grade: 316/316L/1.4401/1.4404

**QUANTITY:** 1bund. O-2765 kg  
 (number of pcs)  
**Delivery condition**  
 Heat-treated (solution annealing 1000°C water 22minutes)  
 С термич обраб.(закалка в воду 1000°C 22мин.)

ANALYSES, %	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	<.045	.015-.030	16.50-18.00	10.00-13.00	2.00-2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
<b>HEAT</b> № 94921	.025	.35	1.43	.039	.023	16,84	10.26	2.05	.068	.21	.04	.07	.07	.06	.010	.030	.0042	.0012

DIN EN 10002-1, ASTM A 370

MECHANICAL PROPERTIES	Yield Strength, N/mm <sup>2</sup> (ksi) R0.2% R1.0%		Tensile Strength, Rm, N/mm <sup>2</sup> (ksi)	Elongation			Reduction of area, Z, % L Q	Brinell Hardness HB	Impact strength, KV, J		
				A <sub>5</sub> %		L			Q	L	Q
				L	Q						
REQUIRED	205	240	515-690	45	35	40	50	Max 215	100	60	
EFFECTIVE	246 (35.8)	270 (39.3)	543 (79)	64	58	-	77	159	280 277 277	103 108 112	
	-	-	-	-	-	60	-	-	-	-	
	240 (34.9)	268 (39)	545 (79.3)	63	59	-	77	159	280 277 277	103 108 112	
	-	-	-	-	-	60	-	-	-	-	

**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
2.0	2.0	1.5	1.0
0.0	0.0	0.0	1.0

 ICC-EN ISO 3651-2(EN 114, ASTM A262, method E)-test: O.K.  
 "Anti-mixing test-O.K."  
 „Dimension test and surface defects test is accomplished“  
 Твердость в сост. поставки/hardness in supplied condition 140-241HB-189

Mechanical properties tested in state of delivery

US - testing      yes      Results: DIN EN 10228-4 type 1a; class 3: O.K.  
 «ASME SA-388/SA-388M» «ASTM A388/A388M» «FBI1 1/5”»

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

Manufacturer: JSC DNEPROSPETSSTAL  
 Date: 19.05.10 Signed:   
 V. Kargineva  
 Zaporozhye  
 Made in Ukraine.