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PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	Contract No.: 50005 TECHN.PROTOCOL № 390-11 SPEC.№1816/P031589 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-10GR 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:9 Sheet: 6 QUALITY CERTIFICATE EN10204/3.1 Nr.278262 PLANT ORDER № 8014901816
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	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 7.000in/177.80 mm L=5.280m/17.311ft ; L=5.280m/17.311ft Grade: 316/316L/1.4401/1.4404	QUANTITY: 1bund Q-2390 lb/1084 kg (number of pcs) 1bund Q-2390 lb/1084 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 № 99996	.020	.42	1.27	.033	.023	16,90	10.16	2.05	.066	.24	.04	.09	.005	.08	.01	.035	.0095	.0011

DIN EN 10002-1,ASTM A370-09										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 2.8 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									
MECHANICAL PROPERTIES	Yield Strength, (N/mm ²) R0.2% R 1.0%		Tensile Strength, Rm, (N /mm ²)	Elongation		Reducti on of area, Z % L	Brinell Hardness HB	Impact strength, KV, J											
	A ₅ % L	Q		In 2 inches (50mm) or 4D,min,% L	L			Q											
REQUIRED	205	240	515-690	45 35	40	50	140-217	100	60										
EFFECTIVE	316 310	347 343	571 568	64 42 62 42	59 58	81 80.5	167 167	283 280 277 285 288 290	69 68 75 78 85 90										

Mechanical properties tested in state of delivery			Results: ASME SA-388/SA-388M-10(ASTM A 388/A 388M-09)-FBH1/8";EN 10308 type 1a;class 3:OK	Manufacturer:PJSC DNIPROSPETSSTAL Date: 17.11.13 Manager of quality assurance department - V. Kapaieva Signed:  Zaporozhye Made in Ukraine.
US - testing	yes			
Radiation free; mercury free. No Weld or Weld repair.				