



# A00014

**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; <u>ASME SA-193/SA-193M-10 GR B8, CL 1</u> ; ASTM A320/A320M-08 GR B8M, CL 1; ASME SA-320/SA-320M-10 GR B8, CL1; <u>NACE MR 0175-03; NACE MR 0103-10</u>	Sheets: 7                      Sheet: 5 <b>QUALITY CERTIFICATE EN10204/3.1</b> Nr.278528 PLANT ORDER № 8014901816
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	<b>CUSTOMER</b> <b>DSS INTERNATIONAL</b> <b>SA Switzerland</b>	<b>PRODUCT DESCRIPTION</b> Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf Пне.Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф. <b>STEEL MAKING PROCESS: EAF+AOD</b> <b>СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР</b> Round 6.250in/158.75 mm L=4.900m/16.066ft L=4.940m/16.197ft L=4.940m/16.197ft L=4.930m/16.164ft <u>Grade: 316/316L/1.4404/1.4404</u>	QUANTITY: (number of pcs) 1bund Q-1764 lb/800 kg 1bund Q-1777 lb/806 kg 1bund Q-1777 lb/806 kg 1bund Q-1777 lb/806 kg  Delivery condition solution annealed : 1900°F(1040°C)water 30minutes термообработка:закалка в воду
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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		
<b>CAST Heat #</b> № A00014	.021	.33	1.32	.032	.024	16,63	10,76	2,47	.071	.25	.05	.13	.005	.06	.01	.034	.011	.001

DIN EN 10002-1, ASTM A370-09										<b>TECHNICAL REQUIREMENTS:</b> Macrostructure – GOOD GRAIN SIZE : 5 to ASTM E 112-96(2004) Nonmetallic inclusions ASTM E 45-05 (Method A) <table style="width: 100%; text-align: center;"> <tr> <td>A</td><td>B</td><td>C</td><td>D</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>thin</td><td>thick</td><td>thin</td><td>thick</td><td>thin</td><td>thick</td><td>thin</td><td>thick</td> </tr> <tr> <td>3.0</td><td>2.0</td><td>2.0</td><td>1.5</td><td>0.0</td><td>0.0</td><td>1.0</td><td>1.0</td> </tr> </table> ICC-ASTM A262-08 (practice B)-test: O.K. Dimension/surface defects test, anti-mixing test – OK									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
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																																			
MECHANICAL PROPERTIES	Yield Strength, (N/mm <sup>2</sup> ) R <sub>0.2</sub> % R <sub>1.0</sub> %		Tensile Strength, R <sub>m</sub> , (N/mm <sup>2</sup> )	Elongation A <sub>1</sub> % L Q		In 2 inches (50mm) or 4D, min, % L	Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J L Q																																	
REQUIRED	205	240	515-700	40	-	40	50	140-217	100																																	
EFFECTIVE	290 279	322 311	567 571	63	-	60 60	80.5	167 167	242 254 247 250 250 252																																	

Mechanical properties tested in state of delivery

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	Manufacturer: PJSC DNIPROSPETSSTAL Date: 26.11.13 Manager of quality assurance department - V. Kapaieva Signed: 
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Radiation free; mercury free. No Weld or Weld repair.

Zaporozhye  
Made in Ukraine.