



97928 (4")

0061974


**PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE**

	Contract No.: 50005 TECHN.PROTOCOL № 210-11 SPEC.№ 6687/P027119-ED ASTM A182/A182M-10;ASME SA-182/SA-182M-10;ASTM A276-10;ASTM A314-08;ASTM A479A479M-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,CLI (EXC PAR 7.2);ASME SA-193/SA-193M-10GR B8M,CLI(EXC PAR 7.3);NACE MR 0175-03;NACE MR 0103-10	Sheets:16                      Sheet: 4 <b>QUALITY CERTIFICATE EN10204/3.1 Nr.262790</b> PLANT ORDER № 8014906687
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 GMS Certified	<b>CUSTOMER</b> DSS INTERNATIONAL SA Switzerland	<b>PRODUCT DESCRIPTION</b> Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line.Прутки из коррозионностойких (пержающих) сталей горячекатаные, обточенные на линии «Ландграф». <b>STEEL MAKING PROCESS: EAF+AOD</b> <b>СПОСОБ ВЫПЛАВКИ:</b> Электродуговая печь+АКР Round 4.00in/101.6 mm L=3.400-5.500m/11.148-18.033ft Grade: 316/F316/316L/F316L	<b>QUANTITY:</b> 1bund Q-1155 lb/524 kg (number of pcs)                      1bund Q-4087 lb/1854 kg
			<b>Delivery condition</b> Solution annealed :1900-2010° F(1040-1100° C)/water/ термообработка:закалка в воду/

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N <sub>2</sub>		
REQUIRED	<.030	<1.00	1.25-2.00	<.040	.020-.030	16.00-18.00	10.00-14.00	2.00-3.00	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
CAST № 97928	.020	.37	1.27	.033	.024	16,78	10.17	2.07	.063	.22	.04	.13	.005	.09	.02	.030		

ASTM A370-08a							<b>TECHNICAL REQUIREMENTS:</b> Macrostructure – GOOD GRAIN SIZE : 5 to ASTM E 112-96(2004) Nonmetallic inclusions ASTM E 45-05 (Method A) <table border="1" style="width: 100%; text-align: center;"> <tr> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>thin</td> <td>thick</td> <td>thin</td> <td>thick</td> </tr> <tr> <td>2.5</td> <td>2.0</td> <td>2.5</td> <td>2.0</td> </tr> <tr> <td>0.0</td> <td>0.0</td> <td>1.0</td> <td>1.0</td> </tr> </table> ICC-ASTM A262-08 (practice E)-test: O.K. Dimension/surface defects test, anti-mixing test – OK	A	B	C	D	thin	thick	thin	thick	2.5	2.0	2.5	2.0	0.0	0.0	1.0	1.0
A	B	C	D																				
thin	thick	thin	thick																				
2.5	2.0	2.5	2.0																				
0.0	0.0	1.0	1.0																				
MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm <sup>2</sup> ) Re (R <sub>e1</sub> )	Tensile Strength, Rm,ksi (N/mm <sup>2</sup> )	Elongation A <sub>5</sub> %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J																	
REQUIRED	36(248)	75 (515)	45	50	140-223	100																	
EFFECTIVE	40.8(280)	80.6(554)	68	80.5	163	280																	

Mechanical properties tested in state of delivery		Manufacturer: PJSC DNIPROSPETSSTAL Date: 07.06.12 Manager of quality assurance department - V. Kapaieva                      Signed: 
US - testing	yes                      Results: SEP 1921,group 3/class Dd - OK ASTM A-388 FBH 1/8 (3.175mm)	
Radiation free; mercury free. No Weld or Weld repair.		Zaporozhye Made in Ukraine.