



# 97373.

CO53451

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

	Contract No.: 50005 TECHN.PROTOCOL № 210-11 SPEC.№ 4893/PO25873-ED 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-10GR B8M,CL1;ASTM A320/A320M-08GR B8M,CL 1;ASME SA-320/SA-320M-10 GR B8M,CL 1;NACE MR 0175-03;NACE MR 0103-10	Sheets:8 Sheet: 7 <b>QUALITY CERTIFICATE EN10204/3.1 Nr.257866</b> PLANT ORDER № 8014904893
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	CUSTOMER DSS INTERNATIONAL SA Switzerland	PRODUCT DESCRIPTION Bars and rods of corrosion-resistant (stainless) steel forged, peeced. Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 15.000in/381.00mm L=4.550m/14.918ft Grade: 316/F316/316L/F316L	QUANTITY: (number of pcs)      1bund Q-9317 lb/4226 kg
			Delivery condition 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 № 97373	.023	.35	1.34	.036	.025	17.20	10.13	2.04	.052	.28	.05	.09	.080	.09	.011	.0410		

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm <sup>2</sup> ) Re (R <sub>e2</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	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 2.5 2.0 2.5 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
REQUIRED	30(205)	75 (515)	45	50	140-223	100	
EFFECTIVE	44.8 (308)	85.3(586)	62	75	174	277	

Mechanical properties tested in state of delivery

US - testing	yes	Results: SEP 1921,group 3/class Cc - OK	Manufacturer: PJSC DNIPROSPETSSTAL Date: 30.01.12 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.