



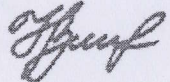
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PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	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 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 (EXC PAR 7.2); ASME SA-193/SA-193M-10GR B8M,CL1(EXC PAR 7.3); NACE MR 0175-03; NACE MR 0103-10	Sheets: 10 Sheet: 3 QUALITY CERTIFICATE EN10204/3.1 Nr.263429 PLANT ORDER № 8014906687
 QMS Certified	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: Электроплавочная печь+АКР Round 4.000m/101.60 mm L=3.4005.500m/11.148-18.033m Grade: 316/F316/316L/F316L
		QUANTITY: (number of pcs) 1bund Q-1689 lb/766 kg Delivery condition solution annealed :1900-2010 ⁰ F(1040-1100 ⁰ C)/water термообработка:закалка в воду

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N ₂		
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 № 98020	.025	.58	1.36	.036	.021	16.34	10.10	2.11	.056	.28	.04	.10	.005	.08	.01	.0290		

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm ²) Re (R _{0.2})	Tensile Strength, Rm,ksi (N/mm ²)	Elongation A ₅ %	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 2.0 2.0 1.7 1.1 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	39.2(271)	80.1(550)	68	78.5	163	273	
Mechanical properties tested in state of delivery							
US - testing	yes	Results: SEP 1921, group 3/class Dd - OK					Manufacturer: PJSC DNIPROSPETSSTAL Date: 27.06.12 Manager of quality assurance department - V. Kapaieva Signed: 
Radiation free; mercury free. No Weld or Weld repair.							Zaporozhye Made in Ukraine.