98604

C073841

PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 50005
TECHN.PROTOCOL № 210-11 SPEC.№ 8163/P028592-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,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:9 **Sheet: 5**
QUALITY CERTIFICATE EN10204/3.1 **Nr.268191**
PLANT ORDER № 8014908163

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:Электродуговая печь+АКР
Round 6.750in/171.45 mm L=3.820m/12.525ft L=3.850m/12.623ft
Grade: 316/F316/316L/F316L

QUANTITY: **1bund Q-3148 lb/1428 kg**
(number of pcs) **1bund Q-3228 lb/1464 kg**

Delivery condition
solution annealed :1900-2010°F(1040-1100°C)/water,30'minutes
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 № 98604	.024	.51	1.31	.036	.023	16,67	10.29	2.07	.078	.26	.05	.14	.005	.09	.022	.037		

ASTM A370

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm²) Re ($R_{0.2}$)	Tensile Strength, Rm,ksi (N /mm²)	Elongation A_5 %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	36(248)	75 (515)	45	50	140-223	100
EFFECTIVE	42.0(281)	80.6(554)	60	78.5	163	285

Mechanical properties tested in state of delivery

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
1.8	1.3	1.5	1.0	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

US - testing	yes	Results: «ASTM A 388 FBH 1/8 " »

Radiation free; mercury free. No Weld or Weld repair.

Manufacturer: PJSC DNIPROSPETSSTAL
Date: 11.12.12 **Manager of quality assurance department** - V. Kapaieva Signed:

Zaporozhye
Made in Ukraine.