C071107

PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 50005
TECHN.PROTOCOL № 210-11 SPEC.№ 7695/P028087-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:5 **Sheet: 1**
QUALITY CERTIFICATE EN10204/3.1 **Nr.266939**
PLANT ORDER № 8014907695

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 5.000in/127.00 mm L=4.970m/16.295ft,L=5.170m/16.951ft, L=3.630m/11.902ft
Grade: 316/F316/316L/F316L

QUANTITY: (number of pcs)
1bund Q-3382 lb/1534 kg
1bund Q-2306 lb/1046 kg
1bund Q-829 lb/376 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 № 98434	.020	.47	1.36	.036	.029	17,07	10.16	2.05	.078	.24	.04	.09	.006	.08	.01	.029		

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	39.7(272)	78.4(538)	63	79	156	290

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
2.0	2.0	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: 27.10.12 **Manager of quality assurance department** - V. Kapaieva Signed:

Zaporozhye
Made in Ukraine.

ANS