98210 (18.75")

C065863

PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 50005
TECHN.PROTOCOL № 210-11 SPEC.№ 7049/P027673-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:7 **Sheet: 7**
QUALITY CERTIFICATE EN10204/3.1 **Nr.264682**
PLANT ORDER № 8014907049

QMS Certified

CUSTOMER
DSS INTERNATIONAL SA
Switzerland

PRODUCT DESCRIPTION
Bars and rods of corrosion-resistant (stainless) steel forged, peeled
Прутки из коррозионностойких (нержавеющих) сталей кованые, обточенные
STEEL MAKING PROCESS: EAF+AOD
СПОСОБ ВЫПЛАВКИ:Электродуговая печь+АКР
Round 18.750in/476.25 mm L=2.93m/9.607 ft;
Grade: 316/F316/316L/F316L

QUANTITY: **1bund Q-9414 lb/4270kg**
(number of pcs)

Delivery condition
solution annealed :1900-2010°F(1040-1100°C)/water(39 minytes)
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 № 98210	.029	.34	1.32	.038	.024	16.90	10.18	2.10	.055	.25	.04	.15	.005	.08	.011	.0330		

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	38.6(265)	80.0(550)	61	77	163	233

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
2.5	2.0	2.0	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 1/5''(5.08mm)»

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

Manufacturer: PJSC DNIPROSPETSSTAL
Date: 06.08.12 **Manager of quality assurance department** - V. Kapaieva Signed:

Zaporozhye
Made in Ukraine.