93403.

JSC DNEPROSPETSSTAL
YUZHNOYE SHOSSE
69008, ZAPOROZHYE
UKRAINE

CUSTOMER *„DSS INTERNATIONAL SA Switzerland*

Purchase order No.: *07149*
TECHN.PROTOCOL № 210-06 SPEC.№1623 071053-CV
„ASTM A182 A182M-05;ASME SA-182 SA-182M-04;ASTM A276-04; ASTM A479 A479M-04;ASTME SA-479 SA-479M-04;ASTM A484 A484M-05; AMS-QQ-S-763A-03 Cond.A;NACE MR 0175-2003;AMS 5648K-02;AMS 5653F-02; ASTM A193 A193M-04Cgr B8M,CL1 :(EXC PAR 6.3) ASME SA-193 SA-193M-04GR B8M,CL1(EXC PAR 6.3)

PRODUCT DESCRIPTION
Rods of corrosion-resistant (stainless) steel.forged peeled Прутки из коррозионностойких(нержавеющих) сталей кованые ,обточен.
STEEL MAKING PROCESS: EAF+AOD
СПОСОБ ВЫПЛАВКИ:Электродуговая печь+АКР
Round 20.0in/508.00 mm L=2.37m;
Grade: 316/316L/1.4404

Sheets:5 ***Sheet: 5***
QUALITY CERTIFICATE *EN10204/3.1* ***Nr.212973***
PLANT ORDER № 8071491623

QUANTITY:
(number of pcs) ***1bund Q-8642 lb/3920kg***

Delivery condition
solution annealed :1900-2010° F(1040-1100°C)/water
термообработка:закалка в воду

ANALYSES, %	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 № 93403	.017	.36	1.38	.040	.020	16.66	10.42	2.10	.072	.29	.04	.09	.096	.092	.010	.037		

MECANICAL PROPERTIES	Yield Strength, Ksi(N / mm²) Re ($R_{0.2}$)	Tensile Strength, Rm,ksi (N /mm²)	Elongation A_5 %	Reduction of area, Z %	Brinel Hardness HB	Impact strength, KV, J
REQUIRED	30(205)	75 (515)	45	50	140-223	100
EFFECTIVE	45.2(312)	79.6(549)	59	70	163	108

Mechanical properties tested in state of delivery

US - testing	yes	Results: *SEP 1921, 3/ Cc - O.K.*

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

TECHNICAL REQUIREMENTS:
Macrostructure – *GOOD*
GRAIN SIZE : 5 to ASTM E 112-96
Nonmetallic inclusions ASTM E 45 (Method A)

A		B		C		D	
thin	thick	thin	thick	thin	thick	thin	thick
2.0	1.5	2.0	1.0	0.0	0.0	1.0	1.0

ICC-ASTM A262-02a(Method E)-test: O.K.
„Dimension/surface defects test,anti-mixing test – O.K. "
Ratio of reduction- 5,14
NOTE:
The customer confirms that the above stated requirements to chemical composition, dimensions,mechanical properties ,packing,marking and inspection certificate comply with the specification SS1 Rev3.

Manufacturer: JSC DNEPROSPETSSTAL
Date: 05.06.08 Signed: _____
T. Abashkina

Zaporozhye
Made in Ukraine.