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PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 20002
TECHN.PROTOCOL № 390-11 SPEC.№1652/PO45380
DIN EN 10088-3-05,DIN EN 10272-08,DIN EN 10222-5-00,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-10GR B8M,CL 1; ASME SA-193/SA-193M-10 GR B8.CL 1 ;ASTM A320/A320M-08 GR B8M,CL 1;ASME SA-320/SA-320M-10 GR B8,CL1;NACE MR 0175-03;NACE MR 0103-10

Sheets:5 **Sheet:5**
INSPECTION CERTIFICATE EN10204/3.1 **Nr.341437**
PLANT ORDER № 8014901652

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=10.754 ft/3.280m
Grade: 316/316L/1.4401/1.4404

QUANTITY:
(number of pcs) **1bund Q-10494 lb/4760 kg**

Delivery condition
solution annealed :1940^{0}F(1060^{0}C)water 30minutes
термообработка:закалка в воду

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N	Sn	B
REQUIRED	<.030	<1,00	1.20-2.00	<.040	.015-.030	16.50-18.00	10.00--13.00	2.00--2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
CAST № A06796	.023	.40	1.30	.040	.026	16.80	10.23	2.07	.075	.40	.05	.07	.005	.11	.01	.027	.011	.0026

DIN EN 10002-1,ASTM A370-09

MECHANICAL PROPERTIES	Yield Strength, (N/mm^2) R0.2%	R 1.0%	Tensile Strength, Rm, (N /mm^2)	Elongation As% L	Q	In 2 inches (50mm) or 4D,min,% L	Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J L	Q
REQUIRED	205	240	515-690	45	35	40	50	140-217	100	60
EFFECTIVE	270	310	573	59	48	58	80	167	190 190 190	80 80 80

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	2.5	2.0	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
We acknowledge that the delivered products conform to the requirements of the order/Подтверждаем, что поставленная продукция соответствует требованиям заказа
Ratio of reduction-7.5:1

US - testing	yes	Results: ASTM A388/A388M-FBHI/5";EN 10228-4 type 1a:class 3:OK

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

Manufacturer:PrJSC DNIPROSPETSSTAL
Date: 08.01.19 **Manager of quality assurance department** - V. Kapaieva
Signed:
Zaporozhye
Made in Ukraine.

AVS