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PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 20002
TECHN.PROTOCOL № 390-11 SPEC.№1897/PO45605
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,CL1; 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:7 **Sheet: 2**
INSPECTION CERTIFICATE EN10204/3.1 **Nr.344691**
PLANT ORDER № 8014901897

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=4.902 ft/1.495m L=5.082 ft/1.550m
Grade: 316/316L/1.4401/1.4404

QUANTITY: **1bund Q-4802 lb/2178 kg**
(number of pcs) **1bund Q-4969 lb/2254 kg**

Delivery condition
solution annealed :1940^{0}F(1060^{0}C)water 25minutes
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 № A06949	.019	.42	1.33	.037	.028	16,95	10.43	2.07	.054	.32	.06	.03	.005	.14	.01	.026	.0094	.0023

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 A$_5$ % 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	284	317	566	61	56	59	75	167	180 180 180	61 61 61

Mechanical properties tested in state of delivery

US - testing	yes	Results: ASTM A388/A388M-FBH1/5";EN 10228-4 type 1a;class 3:OK

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

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
3.0	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
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

Manufacturer:PrJSC DNIPROSPETSSTAL
Date: 23.04.19 **Manager of quality assurance department** - V. Kapaieva
Signed:
Zaporozhye
Made in Ukraine.

AWS