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PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	<p>Contract No.: 20002 TECHN.PROTOCOL № 390-11 SPEC.№3294/PO46349 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</p>	<p>INSPECTION CERTIFICATE EN10204/3.1 Nr.346595 PLANT ORDER № 8014903294</p>	
 <p>QMS Certified</p>	<p>CUSTOMER DSS INTERNATIONAL SA Switzerland</p>	<p>PRODUCT DESCRIPTION Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 13.000in/330.20 mm L=10.131 ft/3.090m L=10.098 ft/3.080m Grade: 316/316L/1.4401/1.4404</p>	<p>QUANTITY: 1bund Q-4753 lb/2156 kg (number of pcs) 1bund Q-4757 lb/2158 kg</p> <p>Delivery condition solution annealed :1922⁰ F(1050⁰ C) water 30minutes термообработка: закалка в воду</p>

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 № A07342	.020	.53	1.36	.040	.026	16,75	10.25	2.10	.08	.31	.05	.06	.005	.10	.011	.033	.010	.0024

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		Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J	
				A ₅ % L Q	In 2 inches (50mm) or 4D, min, % L			L	Q
REQUIRED	205	240	515-690	45 35	40	50	140-217	100	60
EFFECTIVE	293	314	568	60 55	59	79	167	215 215 215	61 61 61

TECHNICAL REQUIREMENTS:
Macrostructure – GOOD
GRAIN SIZE : 6 to ASTM E 112-96(2004)
Nonmetallic inclusions ASTM E 45-05 (Method A)
A B C D
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
We acknowledge that the delivered products conform to the requirements of the order/Подтверждаем, что поставленная продукция соответствует требованиям заказа
Ratio of reduction-6.7:1

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.

Manufacturer: PrJSC DNIPROSPETSSTAL
Date: 24.06.18 **Manager of quality assurance department - V. Kapaieva**
Signed: 
Zaporozhye
Made in Ukraine.

ANS