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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,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; <b>NACE MR 0175-03; NACE MR 0103-10</b>	Sheets:5                      Sheet:4 <b>INSPECTION CERTIFICATE EN10204/3.1 Nr.341437</b> PLANT ORDER № 8014901652
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 GMS Certified	<b>CUSTOMER</b> <b>DSS INTERNATIONAL</b> <b>SA Switzerland</b>	<b>PRODUCT DESCRIPTION</b> Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные. <b>STEEL MAKING PROCESS: EAF+AOD</b> <b>СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР</b> Round 15.000in/381.00 mm L=16.262 ft/4.960m <b>Grade: 316/316L/1.4401/1.4404</b>	<b>QUANTITY:</b> (number of pcs) <b>1bund Q-10194 lb/4624 kg</b>  Delivery condition solution annealed :1940° F(1060°C)water 30minutes термообработка:закалка в воду
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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 <sup>2</sup> ) R0.2% R 1.0%		Tensile Strength, Rm, (N/mm <sup>2</sup> )	Elongation		Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J	
				A5 % 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	268	308	568	59 48	58	80	167	190 190 190	80 80 80

**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-6.0:1

Mechanical properties tested in state of delivery

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

ANS