


C231843

**PrJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYYE, UKRAINE**

**L** Contract No.: 20002  
 TECHN.PROTOCOL № 390-11 SPEC.№0549/PO44837  
 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-10 GR B8M, CL1; ASME SA-193/SA-193M-10 GR B8, CL1; ASTM A320/A320M-08 GR B8M, CL1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10

**Sheets: 4** **Sheet: 1**  
**INSPECTION CERTIFICATE EN10204/3.1 Nr.339863**  
 PLANT ORDER № 8014900549

 **CUSTOMER**  
**DSS INTERNATIONAL**  
**SA Switzerland**

**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=11.082 ft/3.380m L=10.279 ft/3.135m  
**Grade: 316/316L/1.4401/1.4404**

**QUANTITY:** **1bund Q-5216 lb/2366 kg**  
 (number of pcs) **1bund Q-4832 lb/2192 kg**

**Delivery condition**  
 solution annealed :1922<sup>o</sup>F(1050<sup>o</sup>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 № A06586	.021	.43	1.31	.037	.026	17.00	10.36	2.13	.078	.27	.05	.05	.005	.10	.01	.023	.009	.0018


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		
	L	Q		A <sub>5</sub> % L	in 2 inches (50mm) or 4D.min,% L			L	Q	
REQUIRED	205	240	515-690	45	35	40	50	140-223	100	60
EFFECTIVE	290	321	579	60	53	59	77	170	196 196 196	70 70 70

**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 3.0 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-6.5:1

Mechanical properties tested in state of delivery

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

Manufacturer: PrJSC DNIPROSPETSSTAL  
 Date: 15.11.18 **Manager of quality assurance department - V. Kapaieva**  
 Signed:   
 Zaporozhye  
 Made in Ukraine.

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

ANS