

C244207

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

Contract No.: 20002  
 TECHN.PROTOCOL № 390-11 SPEC.№2914/PO46181  
 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

INSPECTION CERTIFICATE EN10204/3.1 Nr.346135  
 PLANT ORDER № 8014902914



**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 15.000in/381.00 mm L=8.033 ft/2.450m L=8.000 ft/2.440m  
**Grade: 316/316L/1.4401/1.4404**

**QUANTITY:**  
 (number of pcs) **1bund Q-5018 lb/2276 kg**  
**1bund Q-4987 lb/2262 kg**

Delivery condition  
 solution annealed :1950<sup>0</sup> F(1065<sup>0</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 № A07299	.021	.47	1.38	.035	.027	16.85	10.24	2.07	.083	.34	.05	.08	.007	.12	.027	.029	.012	.0024

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		As % L	In 2 inches (50mm) or 4D,min,% L			L	Q	
REQUIRED	205	240	515-690	45	35	40	50	140-217	100	60
EFFECTIVE	278	300	584	61	55	59	72	174	184 184 184	66 66 66

**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-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: 07.06.19 Manager of quality assurance department - V. Kapaieva  
 Signed:   
 Zaporozhye  
 Made in Ukraine.

ANS