



C 154053

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

	Contract No.: 20002 TECHN.PROTOCOL № 390-11 SPEC.№0789/PO037991 DIN EN 10088-3-05, DIN EN 10272-08, DIN EN 10222-5-00, AD2000-Merkblatt W2; AD 2000-Merkblatt W10; 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,CL.1; 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,CL.1; <b>NACE MR 0175-03; NACE MR 0103-10</b>	Sheets: 7                      Sheet: 6 <b>INSPECTION CERTIFICATE EN10204/3.1 Nr.306617</b> PLANT ORDER № 8014900789
 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 коррозийноустойчивых (нержавеющих) сталей кованные, обточенные. <b>STEEL MAKING PROCESS: EAF+AOD</b> <b>СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР</b> Round 11.000in/279.40 mm L=13.541ft/4.130m L=15.803ft/4.820m <b>Grade: 316/316L/1.4401/1.4404</b>
<b>QUANTITY:</b> <b>1bund Q-4586 lb/2080 kg</b> (number of pcs) <b>1bund Q-5309 lb/2408 kg</b>		<b>Delivery condition</b> solution annealed : 1976° F (1080° C) water 30 minutes 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 № A03290	.019	.48	1.26	.040	.025	16,97	10.23	2.03	.063	.18	.04	.07	.01	.06	.01	.025	.008	.0011

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 %	In 2 inches (50mm) or 4D, min, % L		L	Q			L	Q	
REQUIRED	205	240	515-690	45	35	40	50	140-223	100	60
EFFECTIVE	268 270	301 305	567 570	60 60	46 46	60 60	79 79	167 167	183 183 183 180 180 180	93 93 93 90 90 90

**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  
 2.0 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

Mechanical properties tested in state of delivery		
US - testing	yes	Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09)-FBH1/5"; EN 10228-4 type 1a; class 3:OK
Radiation free; mercury free. No Weld or Weld repair.		

Manufacturer: PJSC DNIPROSPETSSTAL  
 Date: 19.04.16    **Manager of quality assurance department - V. Kapaieva**  
 Signed:   
 Zaporozhye  
 Made in Ukraine.