

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

**Contract No.:** 20002  
**TECHN.PROTOCOL №** 390-11 SPEC.№ 7683/PO42853-ED  
 DIN EN 10088-3-05; DIN EN 10272-08; 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, CL1 (EXC PAR 7.2); ASME SA-193/SA-193M-10 GR B8, CL 1 (EXC PAR 7.3); NACE MR 0175-03; NACE MR 0103-10

**Sheets: 3** **Sheet: 2**  
**INSPECTION CERTIFICATE EN10204/3.1 Nr. 329829**  
**PLANT ORDER № 8014907683**



**QMS Certified**

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

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line. Друтки из коррозионноустойчивых (нержавеющих) сталей горячекатаные, обоченные на линии Ландграф.  
**STEEL MAKING PROCESS:** EAF+AOD  
**СПОСОБ ВЫПЛАВКИ:** Электродуговая печь+АКР  
 Round 5.000in/127.00 mm L=5.630m/18.459ft L=5.630m/18.459ft  
**Grade: 316/316L/1.4401/1.4404**

**QUANTITY:** 1bund Q-3845 lb/1744 kg  
 (number of pcs) 1bund Q-2562 lb/1162 kg

**Delivery condition**  
 solution annealed :1900°F(1040°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
<b>REQUIRED</b>	<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		
<b>CAST № A05575</b>	.018	.44	1.36	.039	.024	17.28	10.24	2.07	.068	.32	.05	.08	.005	.11	.015	.026	.0096	.0025

**DIN EN 10002-1, ASTM A370-09**

MECHANICAL PROPERTIES	Yield Strength, (N/mm <sup>2</sup> ) R0.2% R 1.0%	Tensile Strength, (N/mm <sup>2</sup> ) Rm	Elongation		Reduction of area, Z% L	Brinell Hardness HB	Impact strength, KV, J												
			A <sub>5</sub> % Q	In 2 inches (50mm) or 4D min, % L			L	Q											
<b>REQUIRED</b>	205	240	40	40	50	140-217	100	-											
<b>EFFECTIVE</b>	285 281	308 310	580 576	60 61	-	60 59	79 79	170 170	238 238 240 240	240 240	240 240	-	-	-	-	-	-	-	-

**Mechanical properties tested in state of delivery**

**TECHNICAL REQUIREMENTS:**  
 Macrostructure – GOOD  
 GRAIN SIZE : 5 to ASTM E 112-96(2004)  
 Nonmetallic inclusions ASTM E 45-05 (Method A)  
 A thin thick thin thick thin thick thin thick  
 B 2.0 1.5 1.5 1.0 0.0 0.0 1.0 1.0  
 C 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0  
 D 1.0 1.0 1.0 1.0 1.0 1.0 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

**US - testing** **yes** **Results:** ASTM A388/A388M)-FBH/1/8"; EN 10308 type Ia; class 3; OK

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

**Manufacturer:** PJSC DNIPROSPETSSTAL  
**Date:** 26.01.18 **Manager of quality assurance department - V. Kapaieva**  
 Signed:   
 Zaporozhnye  
 Made in Ukraine.

MMS