

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

Contract No.: 20002  
 TECHN. PROTOCOL № 390-11 SPEC. № 2425/PO45729  
 DIN EN 10088-3-05, DIN EN 10272-08, AD 2000-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; 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

Sheets: 3 Sheet: 1  
 INSPECTION CERTIFICATE EN10204/3.1 Nr. 344970  
 PLANT ORDER № 8014902425

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

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel hot rolled, peened on Landgraf line. Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.  
**STEBEL MAKING PROCESS: EAF+AOD**  
**ЩОСОБ ВИПЛАВКИ: Електродугова печь+АКР**  
 Round 6.250m/158.75 mm L=5.620/18.426ft L=5.620m/18.426ft  
**Grade: 316/316L/1.4401/1.4404**

**QUANTITY:** 1bund Q-4030 lb/1828 kg  
 (number of pcs) 1bund Q-2015 lb/914 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
CAST № A07140	.020	.47	1.46	.040	.022	16.83	10.40	2.08	.075	.25	.04	.07	.007	.08	.022	.025	.008	.0023

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> % L Q	In 2 inches (50mm) or 4D, min, % L			L	Q
REQUIRED	205	240	40	40	50	140-217	100	-
EFFECTIVE	299 302	344 347	557 553	60 60	58 58	163 163	202 202 206 206	202 206

Mechanical properties tested in state of delivery

US - testing      yes      Results: ASTM A388/A388M-FBH1/8"; EN 10308 type 1a; class 3; OK

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

**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 2.0 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  
 Ratio of reduction-1.5:1:1

Manufacturer: PrJSC DNIPROSPETSSTAL  
 Date: 29.04.19      Manager of quality assurance department - V. Kapaieva  
 Signed:   
 Zaporozhye  
 Made in Ukraine.

*MUS*