

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



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



GMS Certified

**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° F(1050° 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 Q	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)-FBH1/5"; EN 10228-4 type 1a; class 3:OK

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

Manufacturer: PrJSC DNIPROSPETSSTAL

Date: 15.11.18      Manager of quality

assurance department - V. Kapaieva

Signed:

Zaporozhye

Made in Ukraine.

P.O. # 5612      Part # 08-RTJ-120(900#)      Description: 8" CPA 50E S-120 R-49 316 S/S

INS