

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



Contract No.: 20002  
 TECHN.PROTOCOL № 390-11 SPEC.№4176/PO52377  
 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, CL1; ASTM A320/A320M-08 GR B8M, CL1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10

INSPECTION CERTIFICATE ENI0204/3.1 Nr.376539  
 PLANT ORDER № 8014904176



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=10.951 ft/3.340m L=10.164 ft/3.100m

**Grade: 316/316L/1.4401/1.4404**

QUANTITY: **1bund Q-5181 lb/2350 kg**  
 (number of pcs) **1bund Q-4749 lb/2154 kg**

Delivery condition  
 solution annealed : 1940°F (1060°C) water 26minutes  
 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 № A10688	.020	.44	1.48	.040	.025	16.79	10.22	2.06	.073	.35	.06	.04	.005	.14	.01	.035	.011	.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 %	In 2 inches (50mm) or 4D, min, % L			L	Q	
REQUIRED	205	240	515-690	45	35	40	50	140-217	100	60
EFFECTIVE	287	323	561	61	54	60	79	167	213 213 213	61 61 61

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.

**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

Ratio of reduction-6.0:1

Date: 31.12.2021 Manager of quality assurance department  
 - V. Kapaieva Signed:

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 Melted and Produced in Ukraine.  
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