

94879

13"



**DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE**

QMS Certified

Contract No.: 07149  
 TECHN.PROTOCOL № 210-06 SPEC.№6152/PU21010  
 ASTM A182/A182M-05; ASME SA-182/SA-182M-04; ASTM A276-04;  
 ASTM A479/A479M-04; ASTM SA-479/SA-479M-04; ASTM A484/A484M-05; AMS-00-S-763A-03  
 Cond.A; NACE MR 0175-2003; AMS 5648K-02; AMS 5653F-02; ASTM A193/A193M-04c GR B8M, CL1  
 ASME SA-193/SA-193M-04GR B8M, CL1

EN10204/3.1

Sheets: 5      Sheet: 3  
**QUALITY CERTIFICATE** Nr.233033  
 PLANT ORDER № 8071496152

**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=5.38m/17.64ft  
 Grade: 316/F316/316L/F316L

**QUANTITY:**  
 (number of pcs) 1bund 0-8322 lb/3775 kg  
**Delivery condition**  
 solution annealed :1900-2010° F(1040-1100° C)/water 23minutes  
 термообработка:закалка в воду

ANALYSES, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N <sub>2</sub>		
REQUIRED	<.030	<1.00	1.25-2.00	<.040	.020-.030	16.00-18.00	10.00-14.00	2.00-3.00	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
HEAT № 94879	.020	.33	1.43	.032	.021	16.76	10.22	2.05	.006	.21	.05	.14	.005	.06	.010	.058		

**ASTM A 370-08a**

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm <sup>2</sup> ) R <sub>e</sub> (R <sub>e2</sub> )	Tensile Strength, Rm,ksi (N/mm <sup>2</sup> )	Elongation in 2 inches (50mm) or 4D,min,% (ASTM A370)	Reduction of area, %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	36(248)	75 (515)	45	50	140-223	100
EFFECTIVE	46.4(316)	82.3(560)	62	75.5	163	290

Mechanical properties tested in state of delivery

US - testing      yes      Results: SEP 1921, 3/ Cc - O.K.

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

**TECHNICAL REQUIREMENTS:**

Macrostructure - GOOD  
 GRAIN SIZE: 5 to ASTM E 112  
 Nonmetallic inclusions: ASTM E 45 (Method A)  

A	B	C	D
thin	thick	thin	thick
2.0	2.0	1.5	1.0
0.0	0.0	1.0	1.0

 ICC-ASTM A262-02a(Method E)-test: O.K.  
 „Dimension/surface defects test.anti-mixing test - O.K.“  
 Ratio of reduction- 6.24:1

Manufacturer: JSC DNEPROSPETSSTAL  
 Date: 17.05.10 Signed:

Zaporozhye  
 Made in Ukraine.

