

CPA-1950  
03-RTJ-160

CO48010

96481 (6.75")

Ln# 2

SO# S046200

Heat# 96481

To: ASA ALLOYS EDMONTON

Qty: 1556

Date: 2/1/2012

Part: 11406755

Lot: P020274



QMS Certified

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

Contract No.: 50005  
TECHN. PROTOCOL № 2 10-11 SPEC № 3162/PO1332  
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, CL 1 (EXC PAR 7.2); ASME SA-193/SA-193M-10GR B8M, CL 1 (EXC PAR 7.3); NACE MR 0175-03; NACE MR 0103-10

EN 10204/B.1

Sheets: 7 Sheet: 7  
QUALITY CERTIFICATE Nr. 248239  
PLANT ORDER № 8015203162

**CUSTOMER**  
„DSS INTERNATIONAL SA“  
Switzerland

**PRODUCT DESCRIPTION**  
Bars and rods of corrosion-resistant (stainless) steel hot rolled, peeled on Landgraf line. Прутки из коррозионноустойчивых (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф.  
**STEEL MAKING PROCESS:** EAF+AOD  
**СПОСОБ ВЫПУСККИ:** Электродуговая печь+АКР  
Round 6.750in/171.45 mm L=9.84-16.07 ft/3.00-4.90m  
Grade: 316/F316/316L/F316L

**QUANTITY:** 1bund Q:3364 lb/1526 kg  
(number of pcs) 1bund Q:3408 lb/1546 kg

**Delivery condition**  
solution annealed :1900-2010° F(1040-1100° C)/water  
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 № 96481	.022	.78	1.36	.034	.023	16.68	10.10	2.07	.077	.24	.05	.09	.11	.11	.012	.033		

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm <sup>2</sup> ) Re (R <sub>0.2</sub> )	Tensile Strength, Rm, ksi (N/mm <sup>2</sup> )	Elongation A <sub>5</sub> %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	30(205)	75 (515)	45	50	140-223	100
EFFECTIVE	39.7(273)	83.6(574)	60	75	167	233

**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 1.0 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 – O.K.“  
Ratio of reduction- 12.8:1

Mechanical properties tested in state of delivery

US - testing	yes	Results: SEP 1921, group 3/class Dd - OK
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Manufacturer: PJSC DNIPROSPETSSTAL  
Date: 08.06.11 Signed:

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

Zaporozhye  
Made in Ukraine.

