

# 98215

ASA PO 77549 NO 5814/5 CPA 6 FOE 40/80

96 pcs  
+7  
103 pcs

0065860

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

Contract No. 50005  
 TECHN. PROTOCOL № 210-11 SPEC. № 7049/P027673-ED  
 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 B8M,CL1; ASTM A320/A320M-08 GR B8M,CL 1; ASME SA-320/SA-320M-10 GR B8M,CL 1; NACE MR 0175-03; NACE MR 0103-10

Sheets: 7 Sheet: 4  
**QUALITY CERTIFICATE** EN10204/3.1 Nr.264682  
 PLANT ORDER № 8014907049

**CUSTOMER**  
 DSS INTERNATIONAL SA  
 Switzerland

**PRODUCT DESCRIPTION**  
 Bars and rods of corrosion-resistant (stainless) steel forged, peeled  
 Прутки из коррозионноустойчивых (пержавеющих) сталей кованные, обточенные  
**STEEL MAKING PROCESS:** EAF+AOD  
**СПОСОБ ВЫПУСКА:** Электродуговая печь, АКР  
 Round 9.000m/228.60 mm L=4.045m/13,262ft; L=4.28 m/14,033ft;  
Grade: 316/F316/316L/F316L

QUANTITY: 1bund Q-3020 lb/1370kg  
 (number of pcs) 1bund Q-3197 lb/1450kg

Delivery condition  
 solution annealed: 1900-2010°F (1040-1100°C)/water (20 minutes)  
 термообработка: закалка в воду

ANALYSIS, %	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		
CAST Heat # № 98215	.019	.37	1.33	.037	.026	16.70	10.12	2.11	.082	.35	.04	.13	.005	.08	.012	.0310		

ASTM A370

MECHANICAL PROPERTIES	Yield Strength, ksi (N/mm <sup>2</sup> ) Re (R <sub>eL</sub> )	Tensile Strength, ksi (N/mm <sup>2</sup> ) Rm (R <sub>m</sub> )	Elongation A <sub>5</sub> %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	36(248)	75 (515)	45	50	140-223	100
EFFECTIVE	36.9(249)	79.2(544)	60	77	159	233

**TECHNICAL REQUIREMENTS:**  
 Macrostructure – GOOD  
 GRAIN SIZE: 5 to ASTM E 112-96(2004)  
 Nonmetallic inclusions – ASTM E 45-05 (Method A)  
 A V B C D  
 thin thick thin thick thin thick thin thick  
 2.0 1.0 1.5 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

Mechanical properties tested in state of delivery

US - testing      yes      Results: «ASTM A-388 FBH 1/5" (5.08mm)»

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

Manufacturer: PJSC DNIPROSPETSSTAL  
 Date: 06.08.12      Manager of quality assurance  
 department - V. Kapaieva      Signed: *[Signature]*  
 Zaporozhyc  
 Made in Ukraine.