

93765

DSRB0207

5/5/2009



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

QMS Certified

Contract No.: 07234  
 TECHN.PROTOCOL № 210-06 SPEC.№2654/L24518  
 „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-QQ-S-763A-03 Cond.A; NACE MR 0175-2000; AMS 5648K-02; AMS 5653F-02;  
 ASTM A193/A193M-04c GR B8M, CL1; ASME SA-193/SA-193M-04GR B8M, CL1

Sheets: 4      Sheet: 4  
**QUALITY CERTIFICATE EN10204/3.1 Nr.217858**  
 PLANT ORDER № 8072342654

**CUSTOMER**  
 „DSS INTERNATIONAL SA“  
 Switzerland  
 Commodity code RB6L1300/DS

**PRODUCT DESCRIPTION**  
 Rods of corrosion-resistant (stainless) steel forged peeled.  
 Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные.  
**STEEL MAKING PROCESS: EAF+AOD**  
**СПОСОБ ВЫПУСКА: Электродуговая печь+AKP**  
 Round 13.00in/330.20 mm L=4.49m/14.72ft  
 Grade: 316/F316/316L/F316L

**QUANTITY:**  
 (number of pcs)      1bund Q-6878 lb/3120 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		
CAST № 93765	.020	.37	1.36	.038	.025	16,79	10,07	2,04	.080	.32	.04	.08	.104	.08	.01	.040		

MECHANICAL PROPERTIES	Yield Strength, KSI(N/mm <sup>2</sup> ) Ref (ReL)	Tensile Strength, ReH,ksi (N/mm <sup>2</sup> )	Elongation, A <sub>1</sub> %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	30(205)	75(515)	45	50	140-223	100
EFFECTIVE	37.6(256)	80.4(549)	59	75	159	248

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

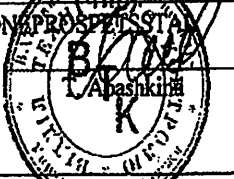
A	B	C	D
thin	thick	thin	thick
2.5	2.0	2.0	0.0
0.0	1.0	1.0	1.0

 ICC-ASTM A262-02a (practice E)-test: O.K.  
 „Dimension /surface defects test, anti-mixing test-O.K.“  
 Ratio of reduction-5.96:1

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.

Manufacturer: JSC DNEPROSPETSSTAL  
 Date: 09.09.08 Signed:   
 Zaporozhye  
 Made in Ukraine.

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