



93505

E17989

 <p>JSC DNEPROSPETSSTAL YUZHNOYE SHOSSE 69008, ZAPOROZHYE UKRAINE</p>		Purchase order No.: 07218 TECHN. PROTOCOL № 210-08 SPEC № 17-12 2155-000 (1) ASTM A182 A182M-05; ASTM SA-192 SA-192M-04; ASTM A276-04; ASTM A479 A479M-04; ASTM SA-179 SA-179M-04; ASTM A484 A484M-05; AMS-QQ-S-763A-01; MIL-A-188-1; MR 0175-200; AMS 5648K-02; AMS 5648K-01; ASTM A193 A193M-04c (7) B31.1 C1.1 ASME SA-193 SA-193M-04c B31.1 C1.1	Sheets: 9 Sheet: 8 QUALITY CERTIFICATE EN10204/3.1 №.214444 PLANT ORDER №: 8072181742
		PRODUCT DESCRIPTION Rods of corrosion-resistant (stainless) steel, hot rolled peeled on "Ländgraf" line. Применяются из коррозионностойких (нержавеющих) сталей горячекатаные обточенные на линии «Ландграф». STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПУСКА: электродуговая печь+АКР Round 7.50mm/190.50mm L=3.60-5.60m Grade: 316/F316/316L/F316L	1bund Q-2359 lb/1070 kg 1bund Q-2381 lb/1080 kg 1bund Q-2403 lb/1090 kg
CUSTOMER „DSS INTERNATIONAL SA Switzerland		QUANTITY: (number of pcs)	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 ₂
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 № 93505	.030	.29	1.40	.040	.023	16.87	10.10	2.06	.078	.29	.04	.12	.11	.13	.011	.032

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm ²) Re (R _{s2})	Tensile Strength, Rm,ksi (N/mm ²)	Elongation, A ₅ %	Reduction of area, Z %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	30(205)	75 (515)	45	50	140-223	100
EFFECTIVE	38.3(263)	80.2(551)	60	75	163	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 thin thick thin thick
 3.0 2.0 2.5 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-10.13
 NOTE:
 The customer confirms that the above stated requirements to chemical composition, dimensions, mechanical properties, packing, marking and inspection certificate comply with the specification SS1 Re.

Mechanical properties tested in state of delivery

US - testing	yes	Results: SEP-1921, 3/Ce - O.K.
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Manufacturer: JSC DNEPROSPETSSTAL
 Date: 13.07.08 Signed: 
 Zaporozhye
 Made in Ukraine.

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