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QMS Certified

DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

Contract No.: 50005
 TECHN.PROTOCOL № 210-11 SPEC.№2798/PO24122-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, CL 1; ASME SA-193/SA-193M-10 GR B8M, CL 1; 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

EN10204/3.1
 Sheets: 9 Sheet: 9
 QUALITY CERTIFICATE Nr.249970
 PLANT ORDER № 8014902798

CUSTOMER
 „DSS INTERNATIONAL SA“
 Switzerland

PRODUCT DESCRIPTION
 Bars and rods of corrosion-resistant (stainless) steel forged, peeled.
 Прутки из коррозионноустойчивых (нержавеющих) сталей кованные, обточенные.
 STEEL MAKING PROCESS: EAF+AOD
 СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР
 Round 9.000in/228.60 mm L= 13.93 ft/4.25m L= 12.92 ft/3.94m L= 13.11 ft/4.00m
 Grade: 316/F316/316L/F316L

1bund Q-3170 lb/1438 kg
 QUANTITY: 1bund Q-2950 lb/1338 kg
 (number of pcs) 1bund Q-3003 lb/1362 kg
 Delivery condition
 solution annealed : 1900-2010° F (1040-1100° C)/water 16 minutes
 термообработка: закалка в воду /16 мин.

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
HEAT № 96512	.024	.35	1.31	.035	.020	17.25	10.09	2.00	.06	.29	.06	.08	.10	.13	.013	.033

ASTM A370-08a

MECHANICAL PROPERTIES	Yield Strength, Ksi(N/mm ²) Re (R _{e1})	Tensile Strength, Rm,ksi (N/mm ²)	Elongation A ₅ %	Reduction of area, Z, %	Brinell Hardness HB	Impact strength, KV, J
REQUIRED	36(248)	75 (515)	45	50	140-223	100
EFFECTIVE	38.7(263)	86.1(592)	61	81	174	252

TECHNICAL REQUIREMENTS:
 Macrostructure - GOOD
 GRAIN SIZE: 9 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
 3.0 2.0 3.0 2.0 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- 8.8: 1

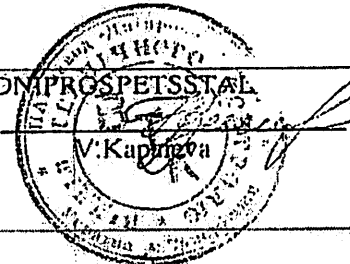


Mechanical properties tested in state of delivery

US - testing yes Results: SEP 1921, group 3/class Cc - OK

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

Manufacturer: PJSC DNIPROSPETSSTAL
 Date: 20.07.11 Signed:



Zaporozhye
 Made in Ukraine.