

AO1105-11

C 115582

PJSC DNIPROPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

Contract No.: 20002
 TECHN. PROTOCOL № 390-11 SPEC. №4468/P033536-ED
 DIN EN 10088-3-05, DIN EN 10272-08, DIN EN 10222-5-00, ASTM A 182/A 182M-10, ASME SA-182/SA-182M-10, ASTM A 276-10, ASTM A 314-08, ASTM A 479/A 479M-10, ASME SA-479/SA-479M-10, ASTM A 484/A 484M-10, AMS-QQ-S-763B-06
 Cond. A: AMS 5648K-07; ASTM A 193/A 193M-10 GR. B8M, CL 1; ASME SA-193/SA-193M-10 GR. B8, CL 1; ASTM A 320/A 320M-08 GR. B8M, CL 1; ASME SA-320/SA-320M-10 GR. B8, CL 1; NACE MR 0175-03; NACE MR 0103-10

CUSTOMER
 USS INTERNATIONAL
 SA Switzerland

PRODUCT DESCRIPTION
 Bars and rods of corrosion-resistant (stainless) steel forged, peeled, I. Прутки из коррозионноустойчивых (перешлифованных) стальной провансы, обработанные.
STEEL MAKING PROCESS: EAF+FOOD
СПОСОБ ВЫПЛАВКИ: Электропечь на пель+АКР
 Round 11.000in/279.40 mm L=3.710m/12.164ft
 Grade: 316/316L/1.4401/1.4404

QUANTITY:
 (number of pcs) 1 bund Q-4109 lb/1864 kg

Delivery condition
 solution annealed: 1940°F(1060°C) water 30 minutes
 термодобработка: закалка в воду

ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N ₂	Sn	B
REQUIRED	<0.30	<1.00	1.20-2.00	<0.040	.015-.030	16.50-18.00	10.00-13.00	2.00-2.50	<10	<40	<10	<20	<15	<40	<20	<10		
CAST No. AO1105	.026	.39	1.31	.038	.027	16.85	10.25	2.04	.662	.24	.04	.12	0.05	.08	.01	.035	.011	.001

DIN EN 10002-1, ASTM A 370-09

MECHANICAL PROPERTIES	Yield Strength, (N/mm ²) 10.2% R _L	Tensile Strength, R _m , (N/mm ²)	Elongation		Reduction of area, Z, %	Brinell (hardness) HB	Impact strength, KV, J													
			A ₅ , %	In 2 inches (50mm) or 4D, min, %			L	L	L	Q										
REQUIRED	205	515-690	45-35	40	50	140-223	100	60												
EFFECTIVE	291	553	61-54	59	75	163	268 268 264	62 62 62												


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
 2.0 2.0 2.0 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 – OK

Mechanical properties tested in state of delivery

US - testing yes

Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09)-FBH1/5"; EN 10228-4 type Inclass 3:OK

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

Manufacturer: PJSC DNIPROPETSSTAL
 Date: 30.08.14 Manager of quality assurance department - V. Kapareva
 Signed: 
 Zaporozhye
 Made in Ukraine.