



99675 (10")

C093189

PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	Contract No.: 50005 TECHN.PROTOCOL № 390-11 SPEC.№1144/P030989-ED DIN EN 10088-3-05, DIN EN 10272-08, DIN EN 10222-5-00, 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 B8, CL 1; ASTM A320/A320M-08 GR B8M, CL 1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10	Sheets: 6 Sheet: 2 QUALITY CERTIFICATE EN10204/3.1 Nr.276345 PLANT ORDER № 8014901144
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 DSS Certified	CUSTOMER DSS INTERNATIONAL SA Switzerland	PRODUCT DESCRIPTION Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 10.000in/254.00 mm L=4.350m/14.262ft L=4.325m/14.180ft Grade: 316/316L/1.4401/1.4404	QUANTITY: 1bund Q-3977 lb/1804 kg (number of pcs) 1bund Q-3959 lb/1796 kg Delivery condition solution annealed : 1904° F(1040° C) water 19minutes термообработка: закалка в воду
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ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N ₂	Sn	B
REQUIRED	<.030	<1.00	1.20-2.00	<.040	.015-.030	16.50-18.00	10.00-13.00	2.00-2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
CAST № 99675	.022	.32	1.30	.038	.022	16,71	10.28	2.08	.063	.30	.05	.08	.011	.10	.01	.031	.011	.001

DIN EN 10002-1, ASTM A370-09									
MECHANICAL PROPERTIES	Yield Strength, (N/mm ²) 10.2% & 1.0%		Tensile Strength, Rm, (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	Q
REQUIRED	205	240	515-690	45 35	40	50	140-223	100	60
EFFECTIVE	297 300	303 307	580 583	58 55 59 55	57 57	73 73	170 170	293 293 290 288 288 286	61 6: 61 61 6: 61

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
3.0	2.0	2.5	2.0
0.0	0.0	0.0	1.0
1.0	1.0		

 ICC-ASTM A262-08 (practice E)-test: O.K.
 Dimension/surface defects test, anti-mixing test – OK

US - testing	yes	Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09)-FBH1/5"; EN 10228-4 type 1a; class 3:OK	Manufacturer: PJSC DNIPROSPETSSTAL Date: 12.09.13 Manager of quality assurance department - V. Kapaieva Signed:  Zaporozhye Made in Ukraine.
Radiation free; mercury free. No Weld or Weld repair.			