



A00014 (5.25")



PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	Contract No.: 50005 TECHN.PROTOCOL № 390-11 SPEC.№1816/P031589 DIN EN 10088-3-05, DIN EN 10272-08, AD2000-Merkblatt W2; AD 2000-Merkblatt W10; 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 5653P-07; ASTM A193/A193M-10GR B8M,CL1; <u>ASME SA-193/SA-193M-10 GR B8,CL 1</u> ; ASTM A320/A320M-08 GR B8M,CL 1; ASME SA-320/SA-320M-10 GR B8,CL1; <u>NACE MR 0175-03</u> ; NACE MR 0103-10	Sheets: 7 Sheet: 3 QUALITY CERTIFICATE EN10204/3.1 Nr.278528 PLANT ORDER № 8014901816
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 GMS Certified	CUSTOMER DSS INTERNATIONAL SA Switzerland	PRODUCT DESCRIPTION Bars and rods of corrosion-resistant (stainless) steel hot rolled, peled on Landgraf line. Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, обточенные на линии Ландграф. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР Round 5.250in/133.35 mm L=5.290m/17.344ft L=5.300m/17.377ft <u>Grade: 316/316L/1.4404/1.4404</u>	QUANTITY: 1bund Q-2632 lb/1194 kg (number of pcs) 1bund Q-2623 lb/1190 kg Delivery condition solution annealed : 1900° F(1040° C) water 30minutes термообработка: закатка 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 Heat # № A00014	.021	.33	1.32	.032	.024	16,63	10,76	2,47	.071	.25	.05	.13	.005	.06	.01	.034	.011	.001

DIN EN 10002-1, ASTM A370-09


MECHANICAL PROPERTIES	Yield Strength, (N/mm ²) R0.2% R 1.0%		Tensile Strength, Rm, (N/mm ²)	Elongation		Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J	
	L	Q		A ₅ % L	In 2 inches (50mm) or 4D; min, % L			L	Q
REQUIRED	205	240	515-700	40 -	40	50	140-217	100	
EFFECTIVE	306 300	338 335	567 560	59 - 59 -	58 58	77 77	163 163	285 291 289 291 290 288	

Mechanical properties tested in state of delivery

US - testing	yes	Results: ASME SA-388/SA-388M-10 (ASTM A 388/A 388M-09)-FBH1/8"; EN 10308 type 1a; class 3: OK
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Radiation free; mercury free. No Weld or Weld repair.

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 thin thick
 2.5 2.0 2.5 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

Manufacturer: PJSC DNIPROSPETSSTAL
 Date: 26.11.13 Manager of quality assurance department - V. Kapaieva
 Signed: 
 Zaporozhye
 Made in Ukraine.