

C 01130.

94879

8.5"



GMS Certified

DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

Contract No.: 07339

TECHN. PROTOCOL № 237-06 SPEC. №6057/P0099

„AD 2000-Merkblatt WO/TRD 100(DGRL)97/23/EG“

AD2000-Merkblatt W2, AD2000-Merkblatt W10

“DIN EN 10222-5, DIN EN 10088-3, DIN EN 10272, ASTM A 276, ASTM A 479, ASME SA-479”

DIN EN 10088-3, DIN EN 10222-5, DIN EN 10272, ASTM A182/A182M-05, ASME SA-182/SA-182M-04, ASTM A276-04, ASTM A 314-97(2002), ASTM A479/A479M-04, ASME SA-479/SA-479M-04, ASTM A484/A484M-05, AMS-QQ-S-763A-03 Cond. A, QQS-763F Cond. A, NACE MR 0175, AMS 5648K-02, AMS 5653F-02, ASTM A193/A193M-04c GR. B8M, CL 1, ASME SA-193/SA-193M-04 GR. B8M, CL 1, ASME SA-320/SA-320M-04 GR. B8M, CL 1

EN10204/3.1

Sheets: 9 Sheet: 1
 QUALITY CERTIFICATE Nr. 233086
 PLANT ORDER № 8073396057

CUSTOMER
 „DSS INTERNATIONAL SA“
 Switzerland

PRODUCT DESCRIPTION

Bars and rods of corrosion-resistant (stainless) steel forged peeled.
 Прутки из коррозионностойких (нержавеющих) сталей кованы обточенные.
STEEL MAKING PROCESS: Electric furnace
СПОСОБ ВЫПЛАВКИ: Электродуговая печь
 Round 8.50in/215.90 mm L=4.72m L=3.75m
 Grade: 316/316L/1.4401/1.4404

QUANTITY:
 (number of pcs)
 1bund. Q-1426 kg
 1bund. Q-1140 kg

Delivery condition
 Heat-treated (solution annealing 1000-1010°C water 13minutes)
 С термич. обраб. (закалка в воду 1000-1010°C 13мин.)

ANALYSES, %	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	<.045	.015-.030	16.50-18.00	10.00-13.00	2.00-2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
HEAT № 94879	.020	.33	1.43	.032	.021	16,76	16.22	2.05	.006	.21	.05	.14	.005	.06	.010	.058	.0048	.0013

DIN EN 10002-1, ASTM A 370

MECHANICAL PROPERTIES	Yield Strength, N/mm ² (ksi) R _{0.2} R _{1.0}		Tensile Strength, R _m , N/mm ² (ksi)	Elongation		Reduction of area, Z, % L Q	Brinell Hardness HB	Impact strength, KV, J		
				A ₅ %	In 2 inches (50mm) or 4D, min, % (ASTM A370)			L	Q	
				L	Q			L	Q	
REQUIRED	205	240	515-690	45	35	40	50	Max 215	100	60
EFFECTIVE	302 (43.9)	325 (47.3)	567 (82.5)	61	56	-	77	167	292 295 289	110 98 98
	300 (43.6)	327 (47.6)	569 (82.8)	60	56	-	77	167	292 295 289	110 98 98
	-	-	-	-	-	59	-	-	-	-

TECHNICAL REQUIREMENTS:

Macrostructure – GOOD
 GRAIN SIZE: 4 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)

A	B	C	D
thin	thick	thin	thick
2.0	2.0	1.5	1.5
0.0	0.0	0.0	0.0

 ICC-EN ISO 3651-2(EN 114, ASTM A262, method E)-test: O.K.
 “Anti-mixing test-O.K.”
 „Dimension test and surface defects test is accomplished “
 Твердость в сост. поставки/hardness in supplied condition 140-241HB-228

Mechanical properties tested in state of delivery

US - testing

yes

Results: DIN EN 10228-4 type 1, class 3: O.K.
 «ASME SA-388/SA-388M» «ASTM A388/A388M» «FBH 1/5”»

Manufacturer: JSC DNEPROSPETSSTAL

Date: 19.05.10 Signed:

V. Kapitsa

Zaporozhye
 Made in Ukraine.

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