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DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE

EN 10204/3.1

Contract No.: 50005
 TECHN. PROTOCOL № 237-06 SPEC. № 1519/P01057
 AD 2000-Merkblatt W0/TRD 100(DGRL97/23/EG)
 AD 2000-Merkblatt W2, AD 2000-Merkblatt W10
 DIN EN 10088-3, DIN EN 10222-5, DIN EN 10272, ASTM A182/A182M-10, ASME SA-182/A182M-10, ASTM A276-10, ASTM A 314-08, ASTM A479, A179M 10
 ASME SA-479/SA-479M-10, ASTM A484/A484M-10, AMS-QQ-S-761B-06, Cond.A, NACE MR 0175, AMS 5648K-07, AMS 5653I-07
 ASTM A193/A193M-10, GR B8M, CL 1, ASTM A320/A320M-08, GR B8M, CL 1, ASME SA-320/SA-320M-10, GR B8M, CL 1

Sheets: 5
 QUALITY CERTIFICATE № 243462
 PLANT ORDER № 8003391519

QUANTITY:
 (number of pcs)
 1bund. Q-1276 kg
 1bund. Q-1198 kg
 1bund. Q-1276 kg

Delivery condition
 Heat-treated (solution annealing 1000°C, water 13minutes)
 C-терміт, обпалювання в воді 1000°C (13min.)

PRODUCT DESCRIPTION

Bars and rods of corrosion-resistant (stainless) steel, forged peeled
 Прутки из коррозионно-стойких (нержавеющих) сталей, ковшевые обработанные

STEEL MAKING PROCESS: Electric furnace
 СПОСОБ ВЫПЛАВКИ: Электроплавочная печь

Round 8...50mm/215.90 mm L=4.22m/3.925m/4.23m
 Grade: 316/316L/1.4401/1.4404

CUSTOMER

DSS INTERNATIONAL SA
 Switzerland

ANALYSES, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N ₂	Sn	B
	<.030	<.030	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		
	.030	.30	1.42	.036	.028	16.78	10.20	2.03	.053	.27	.05	.10	.092	.08	.012	.037	.01	.0011

TECHNICAL REQUIREMENTS:

Macrostructure - GOOD
 GRAIN SIZE: 5 to ASTM E 112
 Nonmetallic inclusions ASTM E 45 (Method A)
 thin thick thin thick thin thick thin thick
 3.0 2.0 2.5 2.0 0.0 0.0 1.0 1.0
 ICC-EN ISO 3651-2(EN 114, ASTM A262, method E)-test: O.K.
 "Anti-mixing test-O.K."

Impact strength, KV_J / J
 L Q
 100 60
 290 288 293 63 64 65

Brinell Hardness HIB
 Max 215 174
 289 288 293 62 66 63

Reduction of area, Z %
 L Q
 50 77
 77 77

Elongation
 A₅ %
 L Q
 45 35 59 55 57 58 55 58

Tensile Strength, R_m, N/mm² (ksi)
 L Q
 515-690 45 35 59 55 57 58 55 58

Yield Strength, N/mm² (ksi) R_{0.2}% R_{L0.0}
 205 240 328 (47.7) 330 (48.0)
 288 (41.9) 290 (42.2)

MECHANICAL PROPERTIES

REQUIRED

EFFECTIVE

MECHANICAL PROPERTIES

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Mechanical properties tested in state of delivery

US - testing

yes

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

Results: «ASTM SA-388/SA-388M» «ASTM A388/A388M» «DIN 1.5...»

Manufacturer: JSC DNEPROSPETSSTAL

Date: 10.02.11 Signed: _____

Zaporozh'ye Made in Ukraine.

