



QMS Certified

**DNEPROSPETSSTAL, YUZHNOYE SHOSSE 81, ZAPOROZHYE 69008, UKRAINE**

Contract No.: 07339

TECHN. PROTOCOL № 267-07 SPEC. № 3730/P00922

.. AD 2000-Merkblatt WO/TRD 100,97/23/EG(DGRL)"

"DIN EN 10088-3, DIN EN 10272, ASTM A182/A182M-05, ASME SA-182/SA-182M-04, ASTM A276-04, ASTM A479/A479M-04, ASME SA-479/SA-479M-04, ASTM A484/A484M-05, AMS-QQ-S-763A-03, QQS-763F, Cond. A, NACE MR 0175-2003, AMS 5648K-02, AMS 5653F-02, ASTM A193/A193M-04c GR B8M, CL 1 D, ASME SA-193/SA-193M-04 GR B8M, CL 1D"

Sheets: 5

Sheet: 2

QUALITY CERTIFICATE EN10204/3.1 Nr. 223841  
PLANT ORDER № 8073393730CUSTOMER  
„DSS INTERNATIONAL SA“  
Switzerland

## PRODUCT DESCRIPTION

Rods of corrosion-resistant (stainless) steel forged, peeled.

Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные.

STEEL MAKING PROCESS: Electric furnace

СПОСОБ ВЫПЛАВКИ: Электродуговая печь

Round 228.60 mm/9.00in L=5.38m/17.64 ft

Grade: 316/316L/1.4404

QUANTITY: 1bund. Q-3990 lb/1810 kg  
(number of pcs)

Delivery condition

Heat-treated (solution annealing 1020-1100° water)

С термич.обработ. (закалка в воду 1020-1100°)

ANALYSES, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N <sub>2</sub>	Sn	B
REQUIRED	<.030	<1.00	1.25-2.00	<.040	<.030	16.50-18.00	10.00-13.00	2.00-2.50	<.10	<.40	<.10	<.20	<.15	<.40	<.20	<.10		
CAST № 94111	.025	.36	1.36	.039	.023	16.77	10.03	2.00	.070	.26	.03	.10	.122	.076	.010	.032	.007	.0015

## T.19B

MECHANICAL PROPERTIES	Yield Strength, (N/mm <sup>2</sup> ) R0.2% R1.0%		Tensile Strength, Rm, (N/mm <sup>2</sup> )	Elongation A <sub>5</sub> % L Q		Reduction of area, Z % L Q	Brinell Hardness HB	Impact strength, KV, J	
	L	Q		L	Q			L	Q
REQUIRED	205	240	515-690	40	50		Max 215	100	
EFFECTIVE	240	272	523	61	73,5		156	219 217 210	

## TECHNICAL REQUIREMENTS:

Macrostructure -- GOOD

GRAIN SIZE : 5 to ASTM E 112

Nonmetallic inclusions ASTM E 45 (Method A)

A B C D

thin thick thin thick thin thick thin thick  
2,0 1,5 1,5 1,0 0 0 1,0 1,0

ICC-DIN 50914(EN 114, EN ISO 3651-2)-test: O.K.

"Anti-mixing test-O.K."

„Dimension test and surface defects test is accomplished“

Mechanical properties tested in state of delivery

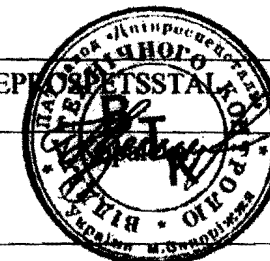
US - testing

yes

Results: SEP 1921,3/Cc-O.K.

Manufacturer: JSC DNEPROSPETSSTAL

Date: 16.06.09 Signed: \_\_\_\_\_



Zaporozhye

Made in Ukraine.

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

ANS