

99675 (11")

C09314

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 10222-5-09, 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, CL1; ASTM A320/A320M-08 GR B8M, CL1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10

Sheets: 6

Sheet: 4

QUALITY CERTIFICATE EN10204/3.1 Nr.276345  
PLANT ORDER № 8014901144



GMS Certified

CUSTOMER  
DSS INTERNATIONAL  
SA Switzerland

PRODUCT DESCRIPTION

Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Прутки из коррозионноустойчивых (нержавеющих) сталей кованные, обточенные.

STEEL MAKING PROCESS: EAF+AOD

СПОСОБ ВЫПЛАВКИ: Электродуговая печь АКР

Round 11.000in/279.40 mm L=3.730m/12.230ft

Grade: 316/316L/1.4401/1.4404

QUANTITY:

(number of pcs) 1bund Q-4127 lb/1872 kg

Delivery condition

solution annealed :1904° F(1040°C)water 19minutes  
термообработка:закалка в воду

ANALYSIS, %	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	1.20-2.00	<.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 <sup>2</sup> ) R <sub>0.2%</sub> R <sub>1.0%</sub>		Tensile Strength, R <sub>m</sub> , (N/mm <sup>2</sup> )	Elongation		Reduction of area, Z % L	Brinell Hardness HB	Impact strength, KV, J	
	L	Q		A <sub>5</sub> %	In 2 inches (50mm) or 4D, min, % L			L	Q
REQUIRED	205	240	515-690	45.35	40	50	140-223	100	60
EFFECTIVE	307	333	570	57.50	56	73	167	292 290 275	66 67 66

Mechanical properties tested in state of delivery

UIS - testing	yes	Results: ASME SA 388/SA-388M-10(ASTM A 388/A 388M-09)-FBH1/5"; EN 10228-4 type Ia; 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
2.0	1.5	1.5	1.0
1.0	0.0	0.0	1.0

ICC-ASTM A262-08 (practice E)-test: O.K.

Dimension/surface defects test, anti-mixing test - OK

Manufacturer: PJSC DNIPROSPETSSTAL

Date: 12.09.13 Manager of quality

assurance department - V. Kapaieva

Signed:

Zaporozhye

Made in Ukraine.