




# A00986 - 2"

## PJSC DNIPROSPETSSTAL, YUZHNOYE SHOSSE 81, 69008 ZAPOROZHYE, UKRAINE

	Contract No.: 20002 TECHN PROTOCOL № 390-11 SPEC № 3734/P033051-ED DIN EN 10088-3-05; DIN EN 10272-08; AD 2000-Merkblatt W2; AD 2000-Merkblatt W10; ASTM A 182/A 182M-10; ASME SA-182/SA-182M-10; ASTM A 276-10; ASTM A 314-08; ASTM A 479/A 479M-10; ASME SA-479/SA-479M-10; ASTM A 484/A 484M-10; AMS-QQ-S-763B-06 Cond.A; AMS 5648K-07; AMS 5653F-07; ASTM A 193/A 193M-10GR B8M, CL1 (EXC PAR 7.2); ASME SA-193/SA-193M-10 GR B8, CL 1 (EXC PAR 7.3); NACE MR 0175-03; NACE MR 0103-10	INSPECTION CERTIFICATE EN10204/3.1 Nr.286450 PLANT ORDER № 8014903734																																																			
	PRODUCT DESCRIPTION Bars and rods of corrosion-resistant (stainless) steel hot rolled, ground and polished. Прутки из коррозионностойких (нержавеющих) сталей горячекатаные, со слезотделкой поверхности. STEEL MAKING PROCESS: EAF+AOD СПОСОБ ВЫПЛАВКИ: Электропудовая печь+АКР Round 2.000in/50.80 mm L=5.460m/17.902ft L=5.420m/17.770ft Grade: 316(316L)/1.4401/1.4404	QUANTITY: 1bund Q-3117 lb/1414 kg 1bund Q-3316 lb/1504 kg  Delivery condition solution annealed : 1900-2010 °F (1040-1100 °C) water термообработка: закалка в воду																																																			
ANALYSIS, %  REQUIRED  CAST № A00986	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>Al</th> <th>Cu</th> <th>V</th> <th>W</th> <th>Ti</th> <th>Co</th> <th>Nb</th> <th>N<sub>2</sub></th> <th>B</th> </tr> <tr> <td>&lt;.030</td> <td>&lt;1.00</td> <td>1.20-2.00</td> <td>&lt;.040</td> <td>.015-.030</td> <td>16.50-18.00</td> <td>10.00-13.00</td> <td>2.00-2.50</td> <td>&lt;.10</td> <td>&lt;.40</td> <td>&lt;.10</td> <td>&lt;.20</td> <td>&lt;.15</td> <td>&lt;.40</td> <td>&lt;.20</td> <td>&lt;.10</td> <td></td> </tr> <tr> <td>.019</td> <td>.42</td> <td>1.42</td> <td>.037</td> <td>.025</td> <td>17.12</td> <td>10.15</td> <td>2.09</td> <td>.064</td> <td>.22</td> <td>.04</td> <td>.09</td> <td>.005</td> <td>.07</td> <td>.01</td> <td>.032</td> <td>.001</td> </tr> </table>	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N <sub>2</sub>	B	<.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		.019	.42	1.42	.037	.025	17.12	10.15	2.09	.064	.22	.04	.09	.005	.07	.01	.032	.001	TECHNICAL REQUIREMENTS: Macrostructure - GOOD GRAIN SIZE : 5 to ASTM E 112-96(2004) Nonmetallic inclusions ASTM E 45-05 (Method A) thin thick thin thick thin thick 3.0 2.0 2.0 1.0 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
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MECHANICAL PROPERTIES  REQUIRED  EFFECTIVE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="2">Yield Strength, (N/mm<sup>2</sup>) R0.2% R 1.0%</th> <th rowspan="2">Tensile Strength, Rm, (N / mm<sup>2</sup>)</th> <th colspan="2">Elongation</th> <th rowspan="2">Reducti on of area, Z %</th> <th rowspan="2">Brinell Hardness HB</th> <th colspan="2">Impact strength, KV, J</th> </tr> <tr> <th>A<sub>5</sub> %</th> <th>In 2 inches (50mm) or 4D,min.%</th> <th>L</th> <th>Q</th> </tr> <tr> <td>205</td> <td>515-700</td> <td>40</td> <td>40</td> <td>50</td> <td>140-217</td> <td>100</td> <td></td> </tr> <tr> <td>323</td> <td>557</td> <td>61,5</td> <td>60</td> <td>75</td> <td>163</td> <td>267 260 265</td> <td></td> </tr> <tr> <td>320</td> <td>555</td> <td>61,5</td> <td>60</td> <td>73</td> <td>163</td> <td>270 280 275</td> <td></td> </tr> </table>	Yield Strength, (N/mm <sup>2</sup> ) R0.2% R 1.0%	Tensile Strength, Rm, (N / mm <sup>2</sup> )	Elongation		Reducti on of area, Z %	Brinell Hardness HB	Impact strength, KV, J		A <sub>5</sub> %	In 2 inches (50mm) or 4D,min.%	L	Q	205	515-700	40	40	50	140-217	100		323	557	61,5	60	75	163	267 260 265		320	555	61,5	60	73	163	270 280 275		US - testing yes Results: ASME SA-388/SA-388M-10(ASTM A 388/A 388M-09)-FBH1/8"; EN 10308 type Ia; class 3-OK															
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Radiation free; mercury free. No Weld or Weld repair.			Manufacturer: PJSC DNIPROSPETSSTAL Date: 28.07.14 Manager of quality assurance department - V. Kapaieva Signed:  Zaporozhye Made in Ukraine.																																																		

Mechanical properties tested in state of delivery