




C220881

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

	Contract No.: 20002 TECHN.PROTOCOL № 390-11 SPEC.№ 9728/P044311 DIN EN 10088-3-05, DIN EN 10272-08, DIN EN 10222-5-00, 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-10GR B8M, CL1; ASME SA-193/SA-193M-10 GR B8, CL 1; ASTM A320/A320M-08 GR B8M, CL 1; ASME SA-320/SA-320M-10 GR B8, CL1; NACE MR 0175-03; NACE MR 0103-10										Sheets: 7 Sheet: 5																																																																
	 CUSTOMER <b>DSS INTERNATIONAL</b> SA Switzerland										<b>INSPECTION CERTIFICATE EN10204/3.1 Nr.335735</b> PLANT ORDER № 8014909728																																																																
<b>PRODUCT DESCRIPTION</b> Bars and rods of corrosion-resistant (stainless) steel forged, peeled. Прутки из коррозионностойких (нержавеющих) сталей кованные, обточенные. <b>STEEL MAKING PROCESS: EAF+AOD</b> <b>СПОСОБ ВЫПЛАВКИ: Электродуговая печь+АКР</b> Round 15.000in/381.00 mm L= 8.393 ft/2.56 m <b>Grade: 316/316L/1.4401/1.4404</b>										QUANTITY: <b>1bund Q-5243 lb/2378 kg</b> (number of pcs)																																																																	
Delivery condition solution annealed :1940°F(1060°C)water 30minutes термообработка:закалка в воду																																																																											
<table border="1"> <thead> <tr> <th>ANALYSIS, %</th> <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</th> <th>Sn</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>REQUIRED</td> <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> <td></td> </tr> <tr> <td>CAST № A06143</td> <td>.018</td> <td>.48</td> <td>1.42</td> <td>.040</td> <td>.026</td> <td>16,71</td> <td>10.20</td> <td>2.08</td> <td>.075</td> <td>.29</td> <td>.05</td> <td>.08</td> <td>.009</td> <td>.11</td> <td>.015</td> <td>.028</td> <td>.013</td> <td>.0022</td> </tr> </tbody> </table>																			ANALYSIS, %	C	Si	Mn	P	S	Cr	Ni	Mo	Al	Cu	V	W	Ti	Co	Nb	N	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 № A06143	.018	.48	1.42	.040	.026	16,71	10.20	2.08	.075	.29	.05	.08	.009	.11	.015	.028	.013	.0022
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DIN EN 10002-1, ASTM A370-09																																																																											
MECHANICAL PROPERTIES		Yield Strength, (N/mm <sup>2</sup> ) R0.2% R 1.0%		Tensile Strength, Rm, (N/mm <sup>2</sup> )		Elongation A <sub>5</sub> % L Q		In 2 inches (50mm) or 4D, min, % L		Reduction of area, Z % L		Brinell Hardness HB		Impact strength, KV, J L Q																																																													
REQUIRED		205	240	515-690		45 35	40	50	140-217	100	60																																																																
EFFECTIVE		280	301	580		61 54	59	75	170	190 190 190	64 64 64																																																																
TECHNICAL REQUIREMENTS: Macrostructure – GOOD GRAIN SIZE : 5 to ASTM E 112-96(2004) Nonmetallic inclusions ASTM E 45-05 (Method A) <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>thin</td> <td>thick</td> <td>thin</td> <td>thick</td> </tr> <tr> <td>3.0</td> <td>2.0</td> <td>2.0</td> <td>1.0</td> </tr> <tr> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>1.0</td> </tr> </tbody> </table> ICC-ASTM A262-08 (practice E)-test: O.K. Dimension/surface defects test, anti-mixing test – OK We acknowledge that the delivered products conform to the requirements of the order/Подтверждаем, что поставленная продукция соответствует требованиям заказа Ratio of reduction-5.6:1																			A	B	C	D	thin	thick	thin	thick	3.0	2.0	2.0	1.0	0.0	0.0	0.0	1.0																																									
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Mechanical properties tested in state of delivery																																																																											
US - testing		yes	Results: ASTM A388/A388M-FBH1/5"; EN 10228-4 type 1a; class 3:OK																																																																								
Radiation free; mercury free. No Weld or Weld repair.																																																																											
Manufacturer: PrJSC DNIPROSPETSSTAL Date: 10.07.18 Manager of quality assurance department - V. Kapaieva Signed:  Zaporozhye Made in Ukraine.																																																																											

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