


<b>A01</b> Tata Steel IJmuiden BV Wachepachstraat 1 1951 JZ Veulen Noord Postbus 18028 1970 CA IJmuiden The Netherlands Telephone: 0251-492118 Company Trade Register 34042351 E-mail: info.testing@tatasteelurope.com		<b>A07.409 Reference</b> 4500023652 11000863  <b>A08 Doc. nr</b> 2020038050 00		<b>A02</b> Inspection certificate 3.1, EN10204.  <b>A09.002.005.004.015</b>		<b>TATA STEEL</b>																																																																																																																																																																																														
		<b>A03</b> HAANTALI STEEL SERVICE CENTRE BV 00010		<b>A10</b> Hot rolled pickled, Coil, S355MC, YMPRESS WG S:01-2010. 1.00 G/M2/Side oiled. Mill edges. Impact test. Suitable for: Part galvanising, Cutting into sheet.																																																																																																																																																																																																
<b>A04</b> SERVICE CENTRE MAASTRICHT B.V. B.U. FEIJEN POSTBUS 10.000  1970 CA IJMUIDEN NOORDHOLLAND		<b>A11</b> Tolerance EN 10051 : 2010 (E) (Width tolerance +20/-0 mm) Dev.Tol. (Thickness tolerance +0.18/-0.18 mm). <b>A12</b> PRODUCE AND TEST ACCORDING TO EN 10149-2																																																																																																																																																																																																		
<b>A13</b> Order nr. 58336 A		<b>A14</b> Dispatch note 78487		<b>A15</b> Transport ALLADIN																																																																																																																																																																																																
<b>A16</b> Dimensions 1500 mm X 8.00 mm		<b>A17</b> TENSILE TEST		<b>A18</b> HARDNESS		<b>A19</b> IMPACT TEST AND OTHER TESTS																																																																																																																																																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>REF</th> <th>PROD. IDENT</th> <th>MASS KG</th> <th>CAST NR.</th> <th>NR</th> <th>Temp °C</th> <th>R<sub>0.2</sub> MPa</th> <th>R<sub>m</sub> MPa</th> <th>A %</th> <th>A<sub>50</sub> %</th> <th>R<sub>0.01</sub>/R<sub>m</sub> %</th> <th>r-value</th> <th>n-value</th> <th>HARNESS</th> <th>ISO-V</th> <th>Temp °C</th> <th>Ind.</th> <th>Ind.</th> <th>Ind.</th> <th>mean</th> <th>ASTH E-112</th> </tr> </thead> <tbody> <tr> <td>604181</td> <td>31940</td> <td>1</td> <td>P4716</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>459</td> <td>529</td> <td>28.0</td> <td>87</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.1</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>114</td> <td>114</td> <td>117</td> <td>115</td> </tr> <tr> <td>604185</td> <td>31760</td> <td>1</td> <td>P4810</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>456</td> <td>541</td> <td>28.5</td> <td>84</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.0</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>117</td> <td>123</td> <td>131</td> <td>124</td> </tr> <tr> <td>604186</td> <td>31780</td> <td>1</td> <td>"</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>456</td> <td>530</td> <td>28.5</td> <td>86</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.0</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>122</td> <td>128</td> <td>125</td> <td>126</td> </tr> <tr> <td>604182</td> <td>31760</td> <td>1</td> <td>P4812</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>441</td> <td>529</td> <td>27.5</td> <td>84</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.0</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>118</td> <td>120</td> <td>135</td> <td>124</td> </tr> <tr> <td>604183</td> <td>31780</td> <td>1</td> <td>P4816</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>464</td> <td>538</td> <td>29.0</td> <td>86</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.1</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>114</td> <td>122</td> <td>120</td> <td>119</td> </tr> <tr> <td>604184</td> <td>31780</td> <td>1</td> <td>P4821</td> <td>32</td> <td>1L P</td> <td>+ 20</td> <td>451</td> <td>538</td> <td>28.5</td> <td>86</td> <td></td> <td></td> <td></td> <td>1L P</td> <td>0</td> <td>5.0</td> <td>ISO-V</td> <td>- 20</td> <td>2</td> <td>114</td> <td>115</td> <td>111</td> <td>113</td> </tr> <tr> <td colspan="2"><b>TOTAL</b></td> <td colspan="2"><b>190800</b></td> <td colspan="2"><b>6</b></td> <td colspan="20"></td> </tr> </tbody> </table>		REF	PROD. IDENT	MASS KG	CAST NR.	NR	Temp °C	R <sub>0.2</sub> MPa	R <sub>m</sub> MPa	A %	A <sub>50</sub> %	R <sub>0.01</sub> /R <sub>m</sub> %	r-value	n-value	HARNESS	ISO-V	Temp °C	Ind.	Ind.	Ind.	mean	ASTH E-112	604181	31940	1	P4716	32	1L P	+ 20	459	529	28.0	87				1L P	0	5.1	ISO-V	- 20	2	114	114	117	115	604185	31760	1	P4810	32	1L P	+ 20	456	541	28.5	84				1L P	0	5.0	ISO-V	- 20	2	117	123	131	124	604186	31780	1	"	32	1L P	+ 20	456	530	28.5	86				1L P	0	5.0	ISO-V	- 20	2	122	128	125	126	604182	31760	1	P4812	32	1L P	+ 20	441	529	27.5	84				1L P	0	5.0	ISO-V	- 20	2	118	120	135	124	604183	31780	1	P4816	32	1L P	+ 20	464	538	29.0	86				1L P	0	5.1	ISO-V	- 20	2	114	122	120	119	604184	31780	1	P4821	32	1L P	+ 20	451	538	28.5	86				1L P	0	5.0	ISO-V	- 20	2	114	115	111	113	<b>TOTAL</b>		<b>190800</b>		<b>6</b>																									
REF	PROD. IDENT	MASS KG	CAST NR.	NR	Temp °C	R <sub>0.2</sub> MPa	R <sub>m</sub> MPa	A %	A <sub>50</sub> %	R <sub>0.01</sub> /R <sub>m</sub> %	r-value	n-value	HARNESS	ISO-V	Temp °C	Ind.	Ind.	Ind.	mean	ASTH E-112																																																																																																																																																																																
604181	31940	1	P4716	32	1L P	+ 20	459	529	28.0	87				1L P	0	5.1	ISO-V	- 20	2	114	114	117	115																																																																																																																																																																													
604185	31760	1	P4810	32	1L P	+ 20	456	541	28.5	84				1L P	0	5.0	ISO-V	- 20	2	117	123	131	124																																																																																																																																																																													
604186	31780	1	"	32	1L P	+ 20	456	530	28.5	86				1L P	0	5.0	ISO-V	- 20	2	122	128	125	126																																																																																																																																																																													
604182	31760	1	P4812	32	1L P	+ 20	441	529	27.5	84				1L P	0	5.0	ISO-V	- 20	2	118	120	135	124																																																																																																																																																																													
604183	31780	1	P4816	32	1L P	+ 20	464	538	29.0	86				1L P	0	5.1	ISO-V	- 20	2	114	122	120	119																																																																																																																																																																													
604184	31780	1	P4821	32	1L P	+ 20	451	538	28.5	86				1L P	0	5.0	ISO-V	- 20	2	114	115	111	113																																																																																																																																																																													
<b>TOTAL</b>		<b>190800</b>		<b>6</b>																																																																																																																																																																																																
<b>A20</b> CHEMICAL COMPOSITION in %																				<b>A21</b> 1: J/cm <sup>2</sup> 2: J 3: Later. exp. (mm)		<b>A22</b> 4: Contraction (Z) 5: Shear area (Z)																																																																																																																																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>CAST NR.</th> <th>C</th> <th>Mn</th> <th>P</th> <th>S</th> <th>Si</th> <th>Al</th> <th>Cu</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>Nb</th> <th>V</th> <th>N</th> <th>B</th> <th>C-eq</th> <th>Al-ZO</th> <th>Sn</th> <th>Ti</th> <th>C-eq1</th> </tr> </thead> <tbody> <tr> <td>P4716</td> <td>.014</td> <td>1.317</td> <td>.013</td> <td>.003</td> <td>0.014</td> <td>0.034</td> <td>.026</td> <td>0.025</td> <td>0.024</td> <td>.004</td> <td>.036</td> <td>.003</td> <td>.0043</td> <td>.0001</td> <td></td> <td>0.032</td> <td>.004</td> <td>.001</td> <td>.294</td> </tr> <tr> <td>P4810</td> <td>.014</td> <td>1.307</td> <td>.014</td> <td>.002</td> <td>0.020</td> <td>0.027</td> <td>.020</td> <td>0.029</td> <td>0.027</td> <td>.005</td> <td>.035</td> <td>.003</td> <td>.0041</td> <td>.0000</td> <td></td> <td>0.026</td> <td>.007</td> <td>.001</td> <td>.292</td> </tr> <tr> <td>P4812</td> <td>.011</td> <td>1.355</td> <td>.014</td> <td>.004</td> <td>0.022</td> <td>0.030</td> <td>.017</td> <td>0.027</td> <td>0.025</td> <td>.004</td> <td>.035</td> <td>.004</td> <td>.0038</td> <td>.0000</td> <td></td> <td>0.028</td> <td>.004</td> <td>.002</td> <td>.293</td> </tr> <tr> <td>P4816</td> <td>.015</td> <td>1.350</td> <td>.015</td> <td>.004</td> <td>0.021</td> <td>0.045</td> <td>.023</td> <td>0.034</td> <td>0.029</td> <td>.007</td> <td>.035</td> <td>.003</td> <td>.0040</td> <td>.0001</td> <td></td> <td>0.043</td> <td>.005</td> <td>.001</td> <td>.300</td> </tr> <tr> <td>P4821</td> <td>.011</td> <td>1.340</td> <td>.015</td> <td>.005</td> <td>0.020</td> <td>0.041</td> <td>.025</td> <td>0.037</td> <td>0.028</td> <td>.004</td> <td>.034</td> <td>.004</td> <td>.0044</td> <td>.0001</td> <td></td> <td>0.039</td> <td>.004</td> <td>.002</td> <td>.297</td> </tr> </tbody> </table>																				CAST NR.	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Nb	V	N	B	C-eq	Al-ZO	Sn	Ti	C-eq1	P4716	.014	1.317	.013	.003	0.014	0.034	.026	0.025	0.024	.004	.036	.003	.0043	.0001		0.032	.004	.001	.294	P4810	.014	1.307	.014	.002	0.020	0.027	.020	0.029	0.027	.005	.035	.003	.0041	.0000		0.026	.007	.001	.292	P4812	.011	1.355	.014	.004	0.022	0.030	.017	0.027	0.025	.004	.035	.004	.0038	.0000		0.028	.004	.002	.293	P4816	.015	1.350	.015	.004	0.021	0.045	.023	0.034	0.029	.007	.035	.003	.0040	.0001		0.043	.005	.001	.300	P4821	.011	1.340	.015	.005	0.020	0.041	.025	0.037	0.028	.004	.034	.004	.0044	.0001		0.039	.004	.002	.297	<b>A23</b> STEELMAKING PROCESS: BO		Page 1 of 1																																																						
CAST NR.	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Nb	V	N	B	C-eq	Al-ZO	Sn	Ti	C-eq1																																																																																																																																																																																	
P4716	.014	1.317	.013	.003	0.014	0.034	.026	0.025	0.024	.004	.036	.003	.0043	.0001		0.032	.004	.001	.294																																																																																																																																																																																	
P4810	.014	1.307	.014	.002	0.020	0.027	.020	0.029	0.027	.005	.035	.003	.0041	.0000		0.026	.007	.001	.292																																																																																																																																																																																	
P4812	.011	1.355	.014	.004	0.022	0.030	.017	0.027	0.025	.004	.035	.004	.0038	.0000		0.028	.004	.002	.293																																																																																																																																																																																	
P4816	.015	1.350	.015	.004	0.021	0.045	.023	0.034	0.029	.007	.035	.003	.0040	.0001		0.043	.005	.001	.300																																																																																																																																																																																	
P4821	.011	1.340	.015	.005	0.020	0.041	.025	0.037	0.028	.004	.034	.004	.0044	.0001		0.039	.004	.002	.297																																																																																																																																																																																	
<b>C50</b> Buigproef/Bend test/Biegeversuch/Test de flexion : goed/good/gut/concluant																				<b>E03</b> Stamp of the expert :		<b>E02</b> Tata Steel IJmuiden BV  <b>ANDRE GILLEBAART</b> GH PRODUCTANALYSIS 																																																																																																																																																																														
<b>Z01</b> We hereby confirm that we comply to the terms of our order acknowledgement and any agreed concessions																						TJMUIDEN, 16 APRIL 2020																																																																																																																																																																														

01M0675E 01M09175