

A01 Tata Steel IJmuiden BV Nenckebachstraat 1 1951 JZ Velsen Noord Postbus 10000 1970 CA IJmuiden The Netherlands Telephone: 0251-492110 Company Trade Register 34040331 E-mail : info.testing@tatasteel.com		A07.A09 Reference ST#34866											A02 Inspection certificate 3.1, EN10204. B01.B02.B03.B04.B15											TATA STEEL																			
A03 Doc. nr 2016063087 00											Hot rolled dry, Coil, S355MC, YMPRESS WG S:01-2010. Mill edges. Impact test. Suitable for: Cutting into sheet.																																
A06 Customer/Consignee OY ALUSTEEL AB TELAKKATIE 4  23500 UUSIKAUPUNKI FINLAND											Tolerance EN 10051 : 2010 (E) (Width tolerance +20/-0 mm) Dev.Tol. (Thickness tolerance +0.24/-0.24 mm). PRODUCE AND TEST ACCORDING TO EN 10149-2											Z04																					
A08 Order nr. 50893 E											A11 Dispatch note 55581											A10 Transport ROBIJN																					
B09.B10.B11 Dimensions 1500 mm X 20 mm											C10-C29 TENSILE TEST											HARDNESS											C40.C60.C65 IMPACT TEST AND OTHER TESTS										
B07	B15	B08	B07	C01	C01/	C10	B05	C05	C11	C11	C11	C12	C13	C13	C16	C17	C18	C32	C01/	C10	B05	C41	C40.C60.C65	C05	C44	C42	C42	C42	C43	C95													
PROD.-	MASS	NR	CAST		CD2			Temp	ReH	ReL	Rp	Rm	A	A	ReH/Rm	r-	n-		CD2			mm		Temp	ind.	ind.	ind.	mean	ASTM														
IDENT	kg		NR.				°C	°C	MPa	MPa	MPa	MPa	%	%	%	value	value						°C						E-112														
3066068	28300	1	S6363	32	1L	P	+ 20	361				515	30.4		70				1L	P	0	10.0	ISO-V	- 20	2	253	303	307	288														
3066069	28280	1	"	32	1L	P	+ 20	366				518	28.5		71				1L	P	0	10.0	ISO-V	- 20	2	299	315	296	303														
3066070	28300	1	"	32	1L	P	+ 20	375				506	30.2		74				1L	P	0	10.0	ISO-V	- 20	2	313	308	332	318														
3066071	28240	1	"	32	1L	P	+ 20	366				510	28.5		72				1L	P	0	10.0	ISO-V	- 20	2	286	292	229	269														
3066072	28320	1	"	32	1L	P	+ 20	372				515	29.4		72				1L	P	0	10.0	ISO-V	- 20	2	300	302	310	304														
3066073	28300	1	"	32	1L	P	+ 20	362				520	27.8		70				1L	P	0	10.0	ISO-V	- 20	2	276	254	274	268														
3119079	28180	1	S7012	32	1L	P	+ 20	371				509	29.3		73				1L	P	0	10.0	ISO-V	- 20	2	324	324	318	322														
3119080	28180	1	"	32	1L	P	+ 20	381				509	28.5		75				1L	P	0	10.0	ISO-V	- 20	2	264	260	311	278														
3119078	28180	1	S7014	32	1L	P	+ 20	382				511	27.7		75				1L	P	0	10.0	ISO-V	- 20	2	260	286	263	270														
3119081	28180	1	"	32	1L	P	+ 20	391				516	26.6		76				1L	P	0	10.0	ISO-V	- 20	2	284	309	315	303														
SUBTOTAL		282460		10																																							
C71-C92 CHEMICAL COMPOSITION in %																						C44 1: J/cm <sup>2</sup> 2: J 3: Later. exp. (mm)											4: Contraction (%) 5: Shear area (%)										
B07	B07	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84	C85	C86	C87	C88	C89																							
CAST	PROD.-	C	Mn	P	S	Si	Al	Cu	Cr	Ni	Mo	Nb	V	N	B	C-eq	Al-ZO	Sn	Ti	C-eq1																							
NR.	IDENT																																										
S6363		.064	1.311	.014	.004	0.013	0.030	.011	0.014	0.017	.003	.033	.003	.0040	.0000		0.029	.002	.001	.288																							
S7012		.060	1.322	.012	.003	0.016	0.032	.009	0.022	0.016	.003	.034	.003	.0036	.0000		0.030	.002	.002	.288																							
S7014		.066	1.347	.015	.003	0.015	0.032	.011	0.023	0.016	.002	.032	.003	.0035	.0000		0.031	.002	.002	.298																							
C-eq1: C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15																																											
C70 STEELMAKING PROCESS: B0																						Page 1 of 2																					
Z05 Stamp of the expert :											Z02 Tata Steel IJmuiden BV Test House, IJmuiden  SIMON BRAAM MANAGER TESTING  <i>S.P. Braam</i>																																
Z05 B06 A04																																											
Z01 We certify that the delivery complies with the order prescriptions.																																											
IJMUIDEN, 12 JUNI 2016																																											

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B09.B10.B11 Dimensions				C10-C29 TENSILE TEST														HARD-NESS	C40..C60..C65 IMPACT TEST AND OTHER TESTS													
1500 mm X		20 mm																														
B07 PROD.-IDENT	B15 MASS kg	B08 NR	B07 CAST NR.	C01	C01/C02	C10	B05	C03 Temp °C	C11 ReH MPa	C11 ReL MPa	C11 Rp MPa	C12 Rm MPa	C13 A %	C13 A %	C16 ReH/Rm	C17 r-value	C18 n-value	C32	C01/C02	C10	B05	C41 mm	C40..C60..C65		C03 Temp °C	C44	C42 ind.	C42 ind.	C42 ind.	C43 mean	C95 ASTM E-112	
3119082	28180	1	S7014	32	1L	P		+ 20	360			506	30.7		71				1L	P	0	10.0	ISO-V		- 20	2	30	193	45	89		
3119083	28200	1	"	32	1L	P		+ 20	374			509	28.2		73				1L	P	0	10.0	ISO-V		- 20	2	320	267	307	298		
3119076	28120	1	S7016	32	1L	P		+ 20	389			520	27.0		75				1L	P	0	10.0	ISO-V		- 20	2	233	316	264	271		
3119077	28180	1	"	32	1L	P		+ 20	383			517	27.5		74				1L	P	0	10.0	ISO-V		- 20	2	310	308	307	308		
3121136	28180	1	S7018	32	1L	P		+ 20	372			508	28.9		73				1L	P	0	10.0	ISO-V		- 20	2	153	167	277	199		
3119075	28240	1	S7020	32	1L	P		+ 20	379			513	27.8		74				1L	P	0	10.0	ISO-V		- 20	2	342	327	322	330		
3119089	28220	1	"	32	1L	P		+ 20	365			504	28.9		72				1L	P	0	10.0	ISO-V		- 20	2	317	328	335	327		
3119084	28200	1	S7022	32	1L	P		+ 20	370			508	29.0		73				1L	P	0	10.0	ISO-V		- 20	2	319	316	256	297		
3119087	28260	1	"	32	1L	P		+ 20	386			514	28.3		75				1L	P	0	10.0	ISO-V		- 20	2	316	272	319	302		
3119088	28240	1	"	32	1L	P		+ 20	376			510	29.4		74				1L	P	0	10.0	ISO-V		- 20	2	309	323	320	317		
3119085	28460	1	S7024	32	1L	P		+ 20	381			508	29.1		75				1L	P	0	10.0	ISO-V		- 20	2	356	362	345	354		
3119086	28220	1	"	32	1L	P		+ 20	375			509	30.3		74				1L	P	0	10.0	ISO-V		- 20	2	322	306	307	312		
<b>TOTAL</b>	<b>621160</b>	<b>22</b>																														

C71-C92 CHEMICAL COMPOSITION in %																				C44					
B07 CAST NR.	B07 PROD.-IDENT	C71 C	C72 Mn	C73 P	C74 S	C75 Si	C76 Al	C77 Cu	C78 Cr	C79 Ni	C80 Mo	C81 Nb	C82 V	C83 N	C84 B	C85 C-eq	C86 Al-ZO	C87 Sn	C88 Ti	C89 C-eql	1: J/cm <sup>2</sup>	2: J	3: Later. exp. (mm)	4: Contraction (%)	5: Shear area (%)
S7014		.066	1.347	.015	.003	0.015	0.032	.011	0.023	0.016	.002	.032	.003	.0035	.0000		0.031	.002	.002	.29					
S7016		.069	1.340	.016	.002	0.019	0.033	.011	0.021	0.017	.003	.035	.004	.0037	.0000		0.031	.003	.002	.300					
S7018		.061	1.335	.014	.004	0.015	0.040	.010	0.018	0.017	.003	.035	.003	.0037	.0000		0.038	.002	.002	.290					
S7020		.062	1.338	.012	.003	0.016	0.038	.010	0.018	0.016	.002	.035	.003	.0042	.0000		0.037	.002	.002	.291					
S7022		.060	1.317	.014	.002	0.018	0.031	.010	0.018	0.017	.003	.035	.003	.0037	.0000		0.030	.002	.002	.286					
S7024		.060	1.318	.013	.003	0.017	0.035	.011	0.018	0.018	.004	.036	.003	.0036	.0000		0.034	.002	.002	.287					

<b>Z05</b> Stamp of the expert :  <b>Z06</b>  <b>A04</b>	<b>Z02</b> Tata Steel IJmuiden BV Test House, IJmuiden  SIMON BRAAM MANAGER TESTING 
<b>Z01</b> We certify that the delivery complies with the order prescriptions.	