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ArcelorMittal Gipuzkoa, S.L.U.  
 Long Carbon Europe  
 CARRETERA MADRID - IRUN, KM. 419  
 20212 OLABERRIA (Gipuzkoa)  
 TELEF. (943) 80.50.00 - FAX (943) 88.04.04



MILL TEST CERTIFICATE

OLA P-34278

DISCHARGE ADDRESS		CUSTOMER	
Ferre Barniedo, S.A. de C.V. Edo. de Mexico San Cristobal Ecatepec, C.P. MEXICO		Ferre Barniedo, S.A. de C.V. Edo. de Mexico San Cristobal Ecatepec, C.P. MEXICO	
SHIPPED AND CERTIFIED BY		CREDIT NUMBER	PORT OF LOADING
ARCELORMITTAL OLABERRIA CARRETERA MADRID - IRUN, KM. 419 20212 OLABERRIA (Gipuzkoa) TELEF. (943) 80.50.00 - FAX (943) 88.04.04			BILBAO, SPAIN
		PORT OF DISCHARGE	VESSEL
		TAMPICO	AMAZONEBORG
OUR REFERENCE	CONTRACT NUMBER	ORDER NUMBER	DATE
mcabello	01-E-43380 / 1700015902	900594	31/01/2013

Material: WF Vigas

El exportador de los productos incluidos en el presente documento, Autorización aduanera no.

ARCELORMITTAL GIPUZKOA S.L.U. ES 20/0040/03

Declara que, salvo indicación en sentido contrario, estos productos gozan de un origen preferencial ESPAÑA

SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
+/WHITE							
WF BEAMS 8x35	40'	31	8	248	5081	157.511	142717,142719,142719
WF BEAMS 8x58	40'	18	4	72	4209	75.762	142733,142784,142740
WF BEAMS 10x49	40'	29	6	174	5334	154.686	142203,142694,142695,142696,142697
WF BEAMS 14x22	40'	33	12	396	7790	158.070	142283,142284,142285,142286,142287,142316,142355,142356
WF BEAMS 14x74	40'	38	3	114	4028	153.064	142765,142798,142803
WF BEAMS 16x31	40'	47	6	282	3375	158.625	141778,142336,142337,142703,142704
WF BEAMS 16x67	40'	42	3	126	3647	153.174	141641,141642,141643,141644,141645,141646,141647,141648,141649
WF BEAMS 21x44	40'	40	5	200	3992	159.680	142649,142650,142652,142653,142699
WF BEAMS 21x68	40'	15	4	60	4935	74.025	142205,142729,142731,142733,142736,142761
WF BEAMS 21x73	40'	29	4	116	5298	153.642	142206,142737,142738
WF BEAMS 21x73	40'	1	3	3	3974	3.974	142206
WF BEAMS 24x55	40'	31	5	155	4990	154.690	142642,142643,142644,142646
WF BEAMS 24x62	40'	17	4	68	4500	76.500	140899,140900,142645,142647,142648

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SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
WF BEAMS 24x84	40'	42	3	126	3701	155.442	142145,142639,142642,142643,142644,142649,142650,142651
WF BEAMS 24x84	40'	3	3	153	4572	233.172	142616,142617,142618,142620,142621,142622,142623,142624

FERRE BARNIEDO  
 ESTE CERTIFICADO  
 DEL ORIGINAL

TOTAL BUNDLES 464 TOTAL WEIGHT 2.022.017 Kg.

A02 EN 10204/3.1 ORIGINAL DE LA COLADA DE LA PLANTA 36  
 CSA G40.21 50W/ASTM A572 G50/A992/A6  
 (B01/B02/B03) A03

COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)												
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	CEV
140899	.093	1.190	.190	.020	.018	.043	.160	.150	.044	.400	.003	.034	.38
140900	.099	1.170	.190	.026	.016	.039	.160	.140	.037	.410	.003	.039	.38
141641	.078	1.050	.190	.022	.017	.033	.110	.130	.036	.410	.003	.033	.37
141642	.086	1.120	.210	.025	.017	.033	.120	.150	.035	.430	.003	.045	.35
141643	.081	1.120	.200	.029	.018	.035	.150	.150	.040	.450	.003	.049	.35
141644	.086	1.090	.160	.016	.019	.034	.120	.130	.036	.420	.003	.033	.34
141645	.092	1.030	.170	.016	.016	.037	.110	.140	.042	.390	.003	.032	.34
141646	.088	1.080	.180	.013	.016	.032	.100	.150	.044	.380	.003	.029	.34
141647	.081	1.120	.200	.014	.019	.033	.170	.170	.050	.310	.003	.030	.35
141648	.105	1.260	.130	.015	.021	.042	.180	.140	.037	.290	.003	.032	.40
141649	.088	1.000	.170	.014	.010	.032	.120	.140	.034	.390	.003	.033	.33
141778	.090	1.040	.190	.025	.012	.034	.120	.140	.035	.500	.003	.029	.34
142145	.082	1.050	.180	.018	.015	.039	.140	.120	.019	.480	.003	.028	.34
142203	.106	1.010	.180	.024	.012	.034	.180	.150	.024	.500	.003	.038	.37
142205	.096	1.040	.200	.019	.009	.045	.140	.170	.031	.450	.003	.035	.35
142206	.102	1.000	.180	.012	.008	.039	.130	.160	.080	.440	.003	.034	.36
142283	.091	1.000	.180	.014	.016	.036	.160	.230	.047	.380	.003	.030	.35
142284	.084	1.020	.180	.017	.014	.038	.150	.230	.044	.400	.003	.037	.34
142285	.102	.940	.190	.023	.028	.038	.130	.230	.043	.410	.003	.035	.34
142286	.087	1.030	.190	.019	.019	.040	.120	.240	.044	.400	.003	.034	.34
142287	.080	.970	.180	.020	.017	.039	.130	.240	.040	.410	.003	.035	.33
142316	.091	1.010	.190	.023	.017	.037	.160	.200	.040	.460	.003	.046	.35
142336	.090	.980	.180	.019	.020	.033	.120	.210	.037	.350	.003	.034	.33
142337	.081	1.110	.170	.019	.021	.036	.120	.190	.039	.440	.003	.026	.35
142355	.113	1.040	.170	.022	.009	.033	.170	.270	.060	.420	.003	.033	.38
142356	.083	.990	.180	.016	.012	.037	.170	.220	.054	.360	.003	.026	.34
142616	.096	1.050	.190	.023	.010	.034	.100	.180	.034	.460	.003	.031	.35
142617	.093	1.010	.190	.020	.013	.033	.090	.160	.030	.390	.003	.021	.33
142618	.076	1.010	.180	.026	.014	.032	.100	.180	.032	.370	.003	.031	.31
142620	.074	1.020	.190	.031	.014	.036	.140	.200	.029	.410	.003	.035	.33
142621	.079	1.040	.180	.017	.021	.038	.100	.170	.031	.340	.003	.040	.32
142622	.101	1.110	.190	.032	.017	.034	.160	.180	.025	.330	.003	.047	.36
142623	.134	1.070	.180	.032	.015	.037	.160	.170	.024	.370	.003	.044	.39
142624	.128	1.030	.170	.027	.020	.036	.130	.220	.038	.390	.003	.042	.38
142639	.184	1.070	.200	.035	.019	.032	.180	.190	.027	.370	.003	.037	.45
142642	.084	1.050	.160	.017	.019	.037	.140	.230	.043	.390	.003	.045	.34
142643	.080	1.000	.160	.022	.020	.035	.130	.210	.043	.350	.003	.037	.33

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**MILL TEST CERTIFICATE**

**OLA P-34278**

COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)																
	C	Mn	SI	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	CEV				
142644	.109	1.010	.170	.023	.018	.035	120	170	.032	.410	.003	.042	.35				
142645	.076	1.030	.190	.039	.011	.036	200	190	.029	.450	.003	.042	.34				
142646	.083	1.050	.170	.029	.020	.041	150	190	.029	.370	.003	.039	.34				
142647	.102	1.020	.190	.029	.016	.038	230	210	.038	.420	.003	.042	.38				
142648	.089	1.040	.200	.033	.014	.037	200	190	.031	.390	.003	.039	.35				
142649	.075	1.050	.170	.021	.025	.038	130	170	.033	.440	.003	.033	.33				
142650	.077	1.040	.180	.023	.028	.038	120	170	.034	.450	.003	.034	.33				
142651	.112	1.090	.160	.019	.022	.042	120	170	.028	.370	.003	.034	.37				
142652	.090	1.110	.190	.021	.033	.042	140	180	.029	.420	.003	.035	.36				
142653	.080	1.090	.160	.017	.017	.039	130	200	.026	.460	.003	.031	.34				
142694	.081	1.010	.180	.018	.019	.037	110	190	.022	.360	.003	.030	.32				
142695	.095	1.000	.170	.013	.016	.037	080	210	.024	.420	.003	.035	.33				
142696	.089	1.030	.190	.014	.018	.043	110	230	.029	.400	.003	.032	.34				
142697	.074	1.030	.180	.015	.023	.042	110	210	.023	.360	.003	.030	.32				
142699	.071	1.020	.190	.018	.024	.037	100	190	.026	.380	.003	.032	.31				
142703	.077	1.040	.200	.019	.026	.036	110	220	.034	.420	.003	.033	.33				
142704	.094	1.050	.180	.016	.017	.037	100	200	.032	.370	.003	.032	.34				
142717	.086	1.030	.180	.024	.016	.042	220	380	.049	.420	.003	.024	.37				
142718	.086	.980	.180	.023	.016	.042	240	300	.038	.460	.003	.020	.37				
142719	.090	1.050	.190	.016	.011	.036	100	250	.038	.400	.003	.028	.34				
142729	.079	1.020	.190	.016	.018	.034	110	230	.039	.380	.003	.022	.33				
142731	.077	.960	.160	.013	.016	.031	080	200	.021	.390	.003	.020	.38				
142733	.077	1.000	.170	.023	.028	.035	130	230	.035	.410	.003	.022	.33				
142734	.130	1.170	.186	.019	.022	.038	120	220	.021	.370	.003	.026	.40				
142736	.110	1.070	.190	.016	.032	.039	100	220	.027	.350	.004	.029	.36				
142737	.090	1.070	.200	.015	.026	.036	110	290	.046	.530	.003	.027	.36				
142738	.084	1.040	.160	.024	.027	.037	110	200	.022	.470	.003	.028	.34				
142740	.073	1.030	.200	.027	.033	.037	130	220	.021	.400	.003	.028	.33				
142761	.065	1.040	.190	.025	.027	.042	160	180	.029	.410	.003	.024	.32				
142765	.071	1.040	.210	.018	.020	.037	090	240	.031	.370	.003	.020	.32				
142798	.094	.960	.170	.016	.024	.030	100	240	.041	.390	.003	.021	.33				
142803	.077	.950	.190	.014	.019	.034	110	180	.027	.320	.003	.031	.30				

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa	Rm MPa	A% LO=8"			
W-10x49	142203	377	363	497	497	24.4	24.2
W-10x49	142694	380	368	500	482	25.5	24.6
W-10x49	142695	389	381	508	486	25.4	25.2
W-10x49	142696	383	375	506	496	27.5	26.6
W-10x49	142697	392	389	513	493	25.6	25.1
W-14x22	142283	417	405	555	541	22.3	22
W-14x22	142284	422	422	563	557	22.3	21.9
W-14x22	142285	391	381	562	552	23	22.7
W-14x22	142286	419	407	536	536	22.6	21.7
W-14x22	142287	414	407	551	527	22.5	22.2
W-14x22	142316	404	400	583	557	22.6	21.9
W-14x22	142355	396	380	593	584	22.4	22

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OLA P-34278

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=8"	
B11	B10	C11		C12		C13	
W-14x22	142356	391	380	543	527	23,1	22,5
W-14x74	142765	380	368	489	483	24,5	24,3
W-14x74	142798	378	373	516	501	23,2	22,7
W-14x74	142803	378	369	516	501	23,2	22,8
W-16x31	141778	414	410	541	521	22,4	21,8
W-16x31	142336	402	399	514	509	22,7	22,5
W-16x31	142337	400	396	529	515	23,1	22,6
W-16x31	142703	388	379	509	498	23,5	23,1
W-16x31	142704	393	386	513	503	25,2	24,6
W-16x67	141641	393	387	514	505	22,3	21,8
W-16x67	141642	396	388	513	508	22,3	22,2
W-16x67	141643	402	390	519	509	22,6	22,3
W-16x67	141644	372	368	497	485	22,8	22,1
W-16x67	141645	376	360	496	492	22,6	22,5
W-16x67	141646	370	366	498	493	22,6	21,7
W-16x67	141647	372	368	504	488	24,2	23,6
W-16x67	141648	412	404	538	522	25,1	24,5
W-16x67	141649	373	358	497	494	23,8	23,1
W-21x44	142649	402	400	518	510	24,	23,
W-21x44	142650	407	400	523	505	24,3	23,8
W-21x44	142652	391	389	521	509	22,8	22,1
W-21x44	142653	394	389	502	493	22,6	22,5
W-21x44	142699	379	377	497	481	26,9	26,9
W-21x68	142205	417	408	540	523	23,8	23,4
W-21x68	142729	369	364	498	486	27,5	27,2
W-21x68	142731	373	368	536	522	23,6	23,4
W-21x68	142733	364	350	496	490	24,9	24,7
W-21x68	142736	409	398	546	534	24,1	23,9
W-21x68	142761	368	378	491	497	23,4	23,4
W-21x73	142206	407	393	540	533	22,4	22,
W-21x73	142737	394	381	525	513	22,6	22,1
W-21x73	142738	378	374	507	503	29,7	29,2
W-24x55	142642	384	373	510	496	22,8	22,2
W-24x55	142643	376	366	511	497	22,5	22,
W-24x55	142644	397	381	516	511	22,8	22,2
W-24x55	142646	399	388	523	508	22,7	22,4
W-24x62	140899	419	413	541	531	22,5	21,7
W-24x62	140900	415	405	531	515	23,	22,4
W-24x62	142645	399	393	543	533	22,5	22,3
W-24x62	142647	420	404	544	530	23,	22,9
W-24x62	142648	395	387	520	504	24,7	24,5
W-24x68	142145	436	425	567	548	22,2	21,7
W-24x68	142639	390	387	510	508	22,6	22,4
W-24x68	142642	390	384	511	495	23,5	22,8
W-24x68	142643	368	361	512	505	23,3	22,9
W-24x68	142644	397	385	518	502	23,	22,6
W-24x68	142649	451	435	624	610	24,	23,7
W-24x68	142650	447	434	615	618	22,5	22,1

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MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=8°	
<small>D11</small>	<small>D02</small>	<small>D11</small>		<small>D12</small>		<small>D13</small>	
W-24x68	142651	394	392	519	497	23	22,5
W-24x84	142616	361	357	502	496	23,5	23,3
W-24x84	142617	375	370	491	492	23,7	22,9
W-24x84	142618	380	364	502	488	23,1	22,6
W-24x84	142620	369	365	498	486	25,5	24,8
W-24x84	142621	386	374	521	503	22,9	22,1
W-24x84	142622	405	404	544	533	22,8	22,2
W-24x84	142623	388	380	513	512	22,9	22,5
W-24x84	142624	393	379	518	512	23,2	23
W-8x35	142717	389	380	534	520	23,5	22,8
W-8x35	142718	401	390	526	524	22,8	22,3
W-8x35	142719	396	386	523	508	23,8	23,1
W-8x58	142733	363	361	493	491	22,5	22,2
W-8x58	142734	441	426	581	571	24,4	24
W-8x58	142740	420	407	526	524	23,5	23,3

## 69 análisis

D01: Certificamos que los aceros arriba indicados han sido satisfactoriamente probados de acuerdo con la especificación.

B06: Marca AMO

Z01

Lorenzo Zabala

ORIGINAL DE NUESTROS ARCHIVOS  
 LA REMISION DE NUESTROS ARCHIVOS  
 58-36-10-00  
 S.A. DE C.V.  
 COPIA FIEL  
 ventas@terredatneco.com.mx