

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



MILL TEST CERTIFICATE

OLA P-34142

DISCHARGE ADDRESS		CUSTOMER	
Fortacero S.A. De C.V. Blvd Carlos Salinas de Gortari KM8.8 Apodaca MEXICO		FORTACERO S.A. DE C.V. BLVD CARLOS SALINAS DEGORTARI KM8.8 APODACA MEXICO	
SHIPPED AND CERTIFIED BY		CREDIT NUMBER	PORT OF LOADING
ARCELORMITTAL OLABERRIA CARRETERA MADRID - IRUN, KM. 419 20212 OLABERRIA (Gulpúzcoa) TELEF. (943) 80.50.00 - FAX (943) 88.04.04			BILBAO, SPAIN
		PORT OF DISCHARGE	VESSEL
		ALTAMIRA	AFRICABORG
OUR REFERENCE	CONTRACT NUMBER	ORDER NUMBER	DATE
mcabello	01-E-42262 / 1700015237	4500092246	31/12/2012

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
+/YELLOW							
WF BEAMS 10x45	40'	1	6	6	4899	4.899	141553
WF BEAMS 12x53	40'	16	4	64	3846	61.536	141659,141660,141661
WF BEAMS 12x53	40'	1	3	3	2885	2.885	141659
WF BEAMS 14x26	40'	1	7	7	3302	3.302	141814
WF BEAMS 16x36	40'	53	5	265	3266	173.098	139984,140030,140711, 141244,141255,141712, 141772,141773,142303, 142304
WF BEAMS 16x36	40'	1	2	2	1306	1.306	141712
WF BEAMS 16x77	40'	9	3	27	4191	37.719	141638,141639,141640
WF BEAMS 21x44	40'	68	5	340	3992	271.456	140867,140868,140870, 140871,140872,140873, 140876,140877,140878, 140879,140880,140881, 140882,141532,141533
WF BEAMS 21x50	40'	4	5	20	4536	18.144	140883,140884
WF BEAMS 21x68	40'	6	4	24	4935	29.610	140970,142205
WF BEAMS 24x55	40'	34	5	170	4990	169.660	140887,140889,140890, 140891,140892,141472, 141475,141477,141482
WF BEAMS 24x55	40'	1	3	3	2994	2.994	142086
WF BEAMS 24x62	40'	16	4	64	4500	72.000	140897,140899,140900, 141478,141479,141480

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SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
WF BEAMS 24x62	40'	1	2	2	2250	2.250	142125
WF BEAMS 24x68	40'	58	3	174	3701	214.658	140866,140867,140868, 140869,140870,141475, 141476,141477,142145, 142148
WF BEAMS 24x68	40'	1	2	2	2468	2.468	142142
WF BEAMS 24x94	40'	10	3	30	5117	51.170	140866,140867
WF BEAMS 10x22	20'	21	12	252	2395	50.295	140834,140835
WF BEAMS 10x26	20'	8	10	80	2359	18.872	140807

TOTAL BUNDLES 310

TOTAL WEIGHT 1,188.322 Kg.

A02 EN 10204/3.1		CSA G40.21 50W/ASTM A572 G50/A992/A6													(801/802/803) A03							
COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)													CEV								
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn										
139984	.133	1.190	.190	.022	.022	.037	.110	.120	.016	.320	.003	.031	.39									
140030	.131	1.160	.200	.022	.025	.036	.140	.140	.017	.490	.004	.041	.40									
140711	.119	1.180	.220	.023	.018	.042	.210	.230	.057	.480	.003	.048	.42									
140807	.102	1.210	.190	.016	.017	.040	.110	.150	.035	.450	.003	.025	.38									
140834	.110	1.150	.220	.034	.014	.040	.150	.130	.035	.380	.003	.036	.38									
140835	.087	1.160	.210	.034	.013	.044	.140	.130	.029	.400	.003	.046	.38									
140866	.104	1.130	.180	.013	.014	.039	.120	.130	.036	.460	.003	.031	.37									
140867	.097	1.200	.190	.016	.012	.042	.160	.160	.052	.500	.003	.072	.39									
140868	.108	1.110	.190	.015	.011	.038	.130	.160	.047	.480	.003	.050	.38									
140869	.100	1.140	.170	.014	.010	.039	.140	.150	.051	.490	.003	.043	.38									
140870	.100	1.120	.170	.021	.013	.039	.160	.140	.040	.470	.003	.063	.38									
140871	.100	1.180	.200	.021	.015	.040	.150	.150	.038	.390	.003	.051	.38									
140872	.082	1.190	.190	.014	.011	.040	.130	.160	.047	.390	.003	.036	.36									
140873	.092	1.200	.190	.018	.012	.040	.130	.180	.040	.450	.003	.043	.38									
140876	.103	1.200	.190	.018	.011	.045	.130	.130	.032	.400	.003	.041	.38									
140877	.105	1.200	.190	.021	.014	.048	.140	.160	.033	.420	.003	.048	.39									
140878	.106	1.280	.200	.028	.011	.043	.170	.150	.031	.490	.003	.044	.41									
140879	.102	1.180	.210	.028	.009	.046	.170	.150	.041	.420	.003	.044	.39									
140880	.107	1.180	.200	.028	.013	.040	.180	.150	.043	.410	.003	.033	.39									
140881	.098	1.190	.180	.015	.010	.038	.110	.150	.034	.470	.003	.040	.37									
140882	.087	1.180	.190	.016	.013	.039	.120	.130	.034	.410	.003	.043	.36									
140883	.102	1.180	.190	.027	.015	.041	.180	.170	.037	.470	.003	.045	.39									
140884	.105	1.170	.190	.018	.013	.039	.170	.150	.032	.460	.003	.048	.39									
140886	.120	1.130	.180	.019	.008	.039	.140	.130	.026	.480	.003	.044	.39									
140887	.105	1.240	.200	.021	.010	.041	.160	.170	.034	.470	.003	.052	.40									
140889	.109	1.230	.210	.023	.014	.040	.200	.160	.032	.480	.003	.039	.41									
140890	.107	1.100	.200	.026	.010	.040	.220	.200	.052	.460	.003	.038	.40									
140891	.122	1.130	.220	.024	.013	.040	.180	.170	.039	.500	.003	.041	.41									
140892	.144	1.210	.220	.019	.011	.040	.120	.150	.027	.360	.003	.023	.42									
140897	.101	1.140	.180	.020	.018	.040	.150	.170	.052	.360	.003	.035	.37									
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									

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MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=8°	
011	002	011		011		013	
W-16x36	141255	398	396	516	496	22,9	22,2
W-16x36	141712	403	405	537	540	22,3	22,4
W-16x36	141772	414	401	587	580	22,6	22,3
W-16x36	141773	412	398	529	511	22,7	22,4
W-16x36	142303	410	399	535	525	22,6	21,9
W-16x36	142304	379	377	509	495	23,2	22,4
W-16x77	141638	376	378	495	491	22,5	22,4
W-16x77	141639	421	409	560	552	22,4	21,7
W-16x77	141640	422	418	565	561	22,2	22
W-21x44	140867	411	403	542	538	22,8	22,6
W-21x44	140868	412	402	529	525	22,1	21,9
W-21x44	140870	397	393	531	519	23,2	22,8
W-21x44	140871	438	420	538	534	22,7	21,8
W-21x44	140872	428	424	541	527	22,7	22,5
W-21x44	140873	398	392	528	522	23,2	22,8
W-21x44	140876	423	423	536	530	24,2	23,9
W-21x44	140877	414	412	548	538	23,2	22,6
W-21x44	140878	438	426	559	557	22,3	22,3
W-21x44	140879	421	415	544	544	22,6	21,8
W-21x44	140880	431	413	552	542	23	22,7
W-21x44	140881	400	394	540	534	22,2	21,9
W-21x44	140882	422	422	531	527	23,3	22,8
W-21x44	141532	415	405	532	510	24,3	23,4
W-21x44	141533	395	391	509	493	22,9	22,5
W-21x50	140883	428	428	563	541	24,8	24,2
W-21x50	140884	422	404	545	541	24,9	24,7
W-21x68	140970	425	415	537	531	24,6	24
W-21x68	142205	417	408	540	523	23,8	23,4
W-24x55	140887	415	413	554	546	23,1	22,9
W-24x55	140889	445	427	585	581	22,6	22,4
W-24x55	140890	415	405	552	535	22,6	21,7
W-24x55	140891	437	423	589	565	22,8	22,2
W-24x55	140892	448	430	575	571	22,6	22
W-24x55	141472	408	392	541	529	22,8	21,9
W-24x55	141475	399	389	511	499	26,1	25,7
W-24x55	141477	421	407	560	540	23,2	22,8
W-24x55	141482	402	388	526	526	24,7	24,7
W-24x55	142086	389	382	507	499	22,6	22,2
W-24x62	140897	402	401	528	510	22,6	22
W-24x62	140899	419	413	541	531	22,5	21,7
W-24x62	140900	415	405	531	515	23	22,4
W-24x62	141478	399	385	509	505	23,2	22,6
W-24x62	141479	370	364	501	495	25,4	25,3
W-24x62	141480	406	392	516	504	23,3	23,2
W-24x62	142125	424	416	555	551	22,8	22,1
W-24x68	140866	411	404	529	519	22,7	22,3
W-24x68	140867	421	410	544	537	22,5	22,1
W-24x68	140868	421	418	550	534	22,8	22,3



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MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReR MPa		Rm MPa		A% LO=8°	
		D11	D12	D17	D18	D19	D20
W-24x68	140869	423	421	545	541	22,7	22,2
W-24x68	140870	411	405	534	525	22,8	22,4
W-24x68	141475	408	397	539	517	24,4	23,8
W-24x68	141476	392	390	511	507	24,6	24,4
W-24x68	141477	388	384	518	496	27,	26,6
W-24x68	142142	406	411	541	548	22,4	22,5
W-24x68	142145	436	425	567	548	22,2	21,7
W-24x68	142148	432	423	505	585	22,4	21,8
W-24x94	140886	405	401	544	532	24,2	23,9
W-24x94	140887	428	414	556	534	27,	25,9

64 análisis

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

B08: Marca AMC

Lorenzo Zubala