

ArcelorMittal Gipuzkoa, S.L.U.

Long Carbon Europe

CARRETERA MADRID - IRUN, KM. 419

20212 OLABERRIA (Guipúzcoa)

TELEF. (943) 80.50.00 - FAX (943) 88.04.04



## MILL TEST CERTIFICATE

OLA P-31036

DISCHARGE ADDRESS		CUSTOMER	
Lámina y Placa Comercial, S. A. de Ocampo 250 Pte. Piso 6, Letra A, Ce Monterrey MEXICO		Coutinho & Ferrostaal Inc. 16510 Northchase Drive Houston ESTADOS UNIDOS	
SHIPPED AND CERTIFIED BY		CREDIT NUMBER	PORT OF LOADING
ARCELORMITTAL OLABERRIA CARRETERA MADRID - IRUN, KM. 419 20212 OLABERRIA (Guipúzcoa) TELEF. (943) 80.50.00 - FAX (943) 88.04.04			BILBAO SPANISH PORT
		PORT OF DISCHARGE	VESSEL
		TAMPICO, MEXICO	ARAGONBORG
OUR REFERENCE	CONTRACT NUMBER	ORDER NUMBER	DATE
mcabello	01-E-40991 / 1700014344	4500032742	25/04/2012

PRIME HOT ROLLED STEEL WIDE FLANGE BEAMS

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
<b>+ /BLUE/WHITE</b>							
WF BEAMS 8x24	40'	1	6	6	2613	2.613	137280
WF BEAMS 8x24	40'	6	10	60	4355	26.130	138069
WF BEAMS 8x28	40'	14	10	140	5080	71.120	138065,138075
WF BEAMS 8x31	40'	6	8	48	4499	26.994	135588,135593,138020, 138043
WF BEAMS 8x31	40'	1	7	7	3937	3.937	136766,136767
WF BEAMS 8x35	40'	4	8	32	5081	20.324	138010,138011
WF BEAMS 8x35	40'	1	6	6	3810	3.810	135598
WF BEAMS 8x40	40'	7	6	42	4355	30.485	137286,138058,138059
WF BEAMS 8x48	40'	17	6	102	5225	88.825	138029,138030
WF BEAMS 10x12	40'	15	18	270	3919	58.785	138102,138103
WF BEAMS 10x45	40'	2	6	12	4899	9.798	134910,136344
WF BEAMS 10x45	40'	1	4	4	3266	3.266	134896
WF BEAMS 10x54	40'	2	4	8	3919	7.838	135783
WF BEAMS 10x54	40'	1	3	3	2939	2.939	135385
WF BEAMS 10x77	40'	1	3	3	4191	4.191	135356
WF BEAMS 12x40	40'	1	6	6	4355	4.355	136872
WF BEAMS 14x26	40'	2	10	20	4717	9.434	137534

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SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
WF BEAMS 14x34	40'	1	8	8	4935	4.935	135759
WF BEAMS 14x34	40'	1	4	4	2468	2.468	136165
WF BEAMS 16x45	40'	3	5	15	4082	12.246	137197,137203
WF BEAMS 16x45	40'	1	4	4	3266	3.266	137203
WF BEAMS 16x57	40'	1	4	4	4137	4.137	137150
WF BEAMS 18x35	40'	10	6	60	3810	38.100	137718,137719,137720,137721,137722
WF BEAMS 21x44	40'	8	5	40	3992	31.936	138111,138112
WF BEAMS 21x57	40'	12	5	60	5171	62.052	138108,138109
WF BEAMS 21x68	40'	6	4	24	4935	29.610	137253,138055,138056
WF BEAMS 21x73	40'	5	4	20	5298	26.490	138056,138058
WF BEAMS 21x73	40'	1	2	2	2649	2.649	137276
WF BEAMS 24x55	40'	8	5	40	4990	39.920	134799,136858
WF BEAMS 24x62	40'	4	4	16	4500	18.000	136857
WF BEAMS 24x62	40'	1	2	2	2250	2.250	136856

TOTAL BUNDLES 144

TOTAL WEIGHT 652.903 Kg.

A02 EN 10204/3.1

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	
134799	,106	1,180	,200	,021	,024	,037	,120	,180	,032	,440	,003	,042	,38	
134896	,079	1,150	,200	,019	,021	,036	,060	,170	,028	,470	,009	,043	,34	
134910	,122	1,310	,180	,014	,027	,040	,120	,180	,028	,360	,007	,028	,41	
135356	,103	1,130	,180	,024	,025	,044	,180	,210	,035	,450	,007	,051	,39	
135385	,083	1,200	,190	,030	,029	,041	,260	,210	,048	,420	,005	,042	,39	
135588	,124	1,250	,220	,026	,016	,003	,180	,170	,034	,390	,018	,041	,41	
135593	,128	1,260	,190	,016	,015	,001	,080	,160	,029	,390	,023	,048	,40	
135598	,110	1,190	,170	,028	,023	,042	,170	,190	,025	,430	,004	,040	,40	
135759	,117	1,370	,230	,022	,017	,004	,120	,130	,035	,400	,024	,042	,41	
135783	,097	1,130	,180	,022	,018	,037	,090	,150	,031	,370	,007	,047	,35	
136165	,110	1,240	,200	,027	,026	,041	,170	,260	,040	,470	,007	,046	,42	
136344	,109	1,190	,210	,028	,021	,039	,110	,180	,037	,370	,009	,045	,38	
136766	,101	1,210	,200	,032	,018	,045	,160	,210	,042	,430	,003	,040	,39	
136767	,088	1,230	,190	,020	,022	,046	,130	,240	,048	,410	,006	,028	,38	
136856	,095	1,170	,210	,016	,020	,042	,160	,270	,052	,380	,009	,045	,38	
136857	,079	1,170	,200	,018	,027	,041	,120	,210	,044	,380	,005	,044	,35	
136858	,115	1,170	,190	,017	,017	,039	,160	,250	,053	,380	,006	,054	,40	
136872	,095	1,260	,200	,019	,029	,037	,170	,380	,065	,390	,003	,038	,41	
137150	,089	1,230	,200	,013	,022	,037	,100	,140	,025	,360	,006	,035	,36	
137197	,095	1,160	,180	,016	,024	,039	,120	,160	,020	,350	,005	,016	,36	
137203	,121	1,200	,190	,014	,029	,037	,100	,130	,023	,330	,004	,027	,38	
137253	,086	1,310	,200	,027	,024	,040	,170	,150	,032	,400	,005	,024	,39	
137276	,098	1,130	,190	,014	,033	,039	,120	,130	,020	,320	,003	,038	,35	

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	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	CEV									
B08																						
137280	,100	1,150	,170	,013	,020	,042	,110	,280	,030	,300	,007	,036	,37									
137286	,113	1,190	,180	,021	,018	,040	,140	,230	,026	,500	,005	,029	,40									
137534	,113	1,110	,170	,021	,024	,040	,150	,200	,025	,410	,007	,028	,38									
137718	,099	1,210	,170	,021	,031	,040	,110	,160	,029	,440	,012	,034	,38									
137719	,109	1,140	,200	,033	,031	,046	,140	,170	,030	,440	,005	,039	,38									
137720	,103	1,160	,190	,031	,025	,042	,150	,170	,026	,480	,003	,037	,38									
137721	,090	1,200	,180	,036	,022	,041	,150	,160	,021	,410	,003	,036	,37									
137722	,117	1,150	,190	,024	,015	,042	,120	,160	,023	,370	,003	,038	,38									
138010	,075	1,120	,180	,027	,020	,038	,170	,150	,025	,490	,003	,026	,35									
138011	,082	1,190	,200	,019	,027	,038	,140	,150	,025	,450	,003	,029	,36									
138020	,090	1,250	,190	,014	,022	,038	,120	,160	,043	,350	,003	,029	,37									
138029	,097	1,170	,170	,014	,018	,039	,170	,140	,031	,500	,011	,034	,38									
138030	,077	1,150	,180	,015	,031	,037	,140	,130	,031	,430	,009	,026	,35									
138043	,083	1,190	,230	,016	,028	,040	,100	,170	,037	,410	,007	,033	,36									
138055	,098	1,140	,180	,016	,024	,037	,090	,120	,028	,430	,003	,036	,36									
138056	,094	1,170	,180	,012	,019	,039	,110	,120	,028	,410	,003	,025	,36									
138058	,083	1,140	,160	,021	,026	,038	,130	,130	,025	,410	,003	,028	,35									
138059	,112	1,170	,200	,029	,028	,040	,140	,140	,029	,450	,006	,035	,39									
138065	,089	1,230	,170	,023	,022	,041	,130	,140	,035	,460	,003	,041	,38									
138069	,097	1,280	,180	,014	,028	,041	,100	,140	,028	,400	,003	,035	,38									
138075	,090	1,160	,160	,014	,030	,040	,090	,150	,038	,350	,003	,040	,35									
138102	,102	1,170	,190	,014	,018	,042	,120	,170	,040	,360	,003	,039	,37									
138103	,109	1,380	,190	,018	,024	,042	,160	,160	,034	,390	,003	,041	,42									
138108	,095	1,150	,190	,017	,026	,041	,130	,130	,030	,430	,003	,027	,36									
138109	,096	1,150	,190	,014	,019	,041	,100	,130	,028	,400	,003	,040	,36									
138111	,092	1,170	,180	,021	,030	,040	,140	,130	,029	,410	,003	,044	,36									
138112	,103	1,140	,180	,017	,021	,039	,110	,140	,024	,430	,003	,040	,37									

  

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=8"	
B11	B08	C11		C12		C13	
W-10x12	138102	404	396	530	513	22,4	21,7
W-10x12	138103	406	394	544	542	21,8	21,5
W-10x45	134896	407	401	535	529	22,6	21,8
W-10x45	134910	399	395	537	535	22,1	22,
W-10x45	136344	397	389	540	530	23,1	22,8
W-10x54	135385	415	411	532	520	23,	22,4
W-10x54	135783	421	411	531	523	23,8	23,2
W-10x77	135356	418	413	544	532	27,1	25,5
W-12x40	136872	402	392	543	526	22,5	22,2
W-14x26	137534	406	402	546	538	22,9	22,9
W-14x34	135759	373	369	557	537	22,6	22,5
W-14x34	136165	395	385	545	533	24,1	23,4
W-16x45	137197	393	387	516	499	22,9	22,3
W-16x45	137203	430	427	560	543	22,1	21,9
W-16x57	137150	384	376	511	501	22,7	22,5
W-18x35	137718	415	403	537	535	23,1	22,6
W-18x35	137719	414	400	553	541	22,7	22,7

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		ReH MPa		Rm MPa		A% LO=8"	
B11	B09	C11		C12		C13	
W-18x35	137720	416	414	543	533	22,7	22,5
W-18x35	137721	402	398	538	518	22,7	22,5
W-18x35	137722	442	438	567	545	22,9	22,8
W-21x44	138111	399	395	534	524	22,9	22,5
W-21x44	138112	415	415	554	548	23,	22,4
W-21x57	138108	417	407	530	514	22,7	22,2
W-21x57	138109	449	437	555	551	23,5	22,6
W-21x68	137253	400	390	527	511	23,8	23,2
W-21x68	138055	405	391	529	512	24,5	24,3
W-21x68	138056	395	398	512	517	24,7	25,1
W-21x73	137276	395	387	522	500	24,6	23,9
W-21x73	138056	411	410	517	515	23,1	23,4
W-21x73	138058	411	405	527	523	22,5	21,8
W-24x55	134799	414	412	534	526	22,1	22,
W-24x55	136858	421	412	552	534	23,1	22,9
W-24x62	136856	418	410	535	519	23,1	22,6
W-24x62	136857	421	411	557	551	23,1	22,9
W-8x24	137280	428	413	565	545	26,6	26,4
W-8x24	138069	405	397	527	505	22,5	22,1
W-8x28	138065	399	389	522	514	23,2	22,4
W-8x28	138075	390	384	506	504	24,3	24,3
W-8x31	135588	387	375	506	499	23,3	22,6
W-8x31	135593	390	380	512	509	22,3	21,7
W-8x31	136766	390	388	511	507	23,2	23,1
W-8x31	136767	391	381	510	506	25,7	24,8
W-8x31	138020	398	388	526	524	23,1	22,7
W-8x31	138043	398	394	535	513	23,	22,3
W-8x35	135598	381	380	560	568	22,1	22,8
W-8x35	138010	398	397	514	511	24,2	24,8
W-8x35	138011	401	397	518	517	24,1	23,4
W-8x40	137286	419	409	557	533	23,	22,8
W-8x40	138058	407	395	511	503	23,	22,5
W-8x40	138059	438	431	592	574	22,7	22,5
W-8x48	138029	401	389	531	511	25,	24,3
W-8x48	138030	392	394	513	516	24,7	24,9

## 50 análisis

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

B06: Marca AMO

Z01

Lorenzo Zabala