

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



ArcelorMittal

48874

MILL TEST CERTIFICATE

OLA P-34539

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
		ALTAMIRA	AZORESBOG
OUR REFERENCE	CONTRACT NUMBER	ORDER NUMBER	DATE
mcabello	01-E-43270/1700015918	609694	28/02/2013

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 18x35	40'	82	6	492	3610	312.420	143070,143071,143072, 143080,143081,143082, 143083,143091,143092, 143093
WF BEAMS 14x22	40'	29		348	4790	138.910	142961,142962,142963, 142964,143020,143039
WF BEAMS 24x76	40'	24		12	4137	99.288	143240,143241,143242, 143243,143245
WF BEAMS 24x84	40'	30	3	90	4572	137.160	143247,143248,143249, 143289,143290
WF BEAMS 24x94	40'	73	3	219	5117	373.541	143251,143252,143253, 143254,143256,143257, 143283,143290,143291, 143292
WF BEAMS 18x76	40'	76	3	228	4137	314.412	142069,142120,142124, 142125,142128,142129, 142130,142829,142830, 142831,142832,142833, 142834,142835,142836, 143128,143129,143130, 143131,143132
WF BEAMS 18x86	40'	127	2	254	3121	396.367	143102,143103,143104, 143105,143106,143107, 143109,143110,143111, 143112,143113,143115, 143116,143118,143119

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SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
TOTAL BUNDLES		441	TOTAL WEIGHT		1.772.098 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 (%)													CEV								
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn										
142069	.093	1,000	.170	.014	.019	.040	.090	.160	.046	.410	.003	.023	.33									
142120	.098	1,080	.180	.023	.010	.037	.130	.150	.025	.510	.003	.041	.36									
142124	.103	1,020	.190	.015	.011	.032	.130	.150	.037	.490	.003	.038	.36									
142125	.117	1,110	.210	.026	.019	.040	.190	.170	.042	.480	.003	.040	.40									
142128	.093	1,060	.160	.020	.021	.035	.190	.160	.038	.410	.003	.031	.36									
142129	.089	1,060	.190	.011	.019	.033	.120	.130	.036	.440	.003	.030	.34									
142131	.095	.990	.220	.023	.017	.035	.160	.160	.038	.390	.003	.027	.34									
142823	.085	.990	.190	.019	.021	.030	.120	.180	.022	.350	.003	.023	.32									
142830	.091	1,050	.180	.022	.019	.034	.120	.180	.026	.380	.003	.017	.34									
142831	.080	1,070	.160	.019	.023	.029	.130	.180	.018	.360	.003	.019	.33									
142832	.082	1,000	.190	.022	.018	.031	.150	.180	.028	.390	.003	.020	.33									
142833	.081	1,010	.210	.019	.019	.034	.140	.180	.022	.350	.003	.018	.32									
142834	.087	1,070	.190	.017	.014	.035	.150	.180	.020	.350	.003	.017	.34									
142836	.108	1,030	.190	.022	.019	.038	.140	.210	.029	.360	.003	.019	.36									
142836	.070	1,030	.170	.026	.027	.039	.150	.190	.024	.360	.003	.017	.32									
142961	.079	.970	.180	.021	.018	.034	.090	.200	.034	.420	.003	.021	.31									
142962	.090	.990	.180	.018	.022	.036	.110	.210	.036	.370	.003	.021	.33									
142963	.081	1,050	.170	.017	.027	.038	.110	.200	.036	.360	.003	.018	.33									
142964	.081	1,100	.200	.021	.027	.045	.180	.350	.058	.400	.003	.019	.37									
143020	.115	1,040	.190	.020	.019	.034	.140	.230	.040	.390	.003	.039	.37									
143039	.109	1,020	.210	.029	.018	.032	.170	.220	.039	.400	.003	.029	.35									
143070	.089	1,020	.190	.020	.018	.034	.110	.200	.036	.370	.003	.028	.34									
143071	.081	1,000	.170	.018	.017	.036	.110	.200	.038	.330	.003	.029	.32									
143072	.073	.960	.190	.022	.017	.034	.130	.210	.038	.380	.003	.029	.31									
143080	.092	1,030	.200	.024	.021	.034	.190	.190	.025	.390	.003	.024	.34									
143081	.104	1,020	.200	.027	.022	.032	.160	.190	.027	.420	.003	.023	.36									
143082	.093	1,020	.180	.029	.023	.031	.170	.170	.025	.420	.003	.022	.35									
143083	.087	1,000	.170	.023	.020	.032	.170	.200	.030	.370	.003	.016	.34									
143091	.068	.990	.170	.015	.026	.032	.070	.150	.020	.410	.003	.017	.29									
143092	.076	.980	.200	.017	.022	.031	.080	.140	.027	.360	.003	.019	.30									
143093	.079	1,010	.180	.017	.018	.032	.090	.150	.029	.400	.003	.026	.31									
143102	.081	1,020	.210	.016	.018	.040	.130	.200	.032	.330	.003	.019	.33									
143103	.113	1,040	.190	.014	.014	.036	.140	.210	.043	.310	.003	.019	.37									
143104	.071	1,000	.190	.013	.024	.036	.120	.200	.042	.320	.003	.018	.31									
143105	.073	.990	.170	.011	.020	.036	.090	.180	.028	.340	.003	.019	.30									
143106	.082	.990	.180	.015	.020	.040	.100	.160	.027	.370	.003	.022	.32									
143107	.105	.970	.190	.019	.017	.039	.130	.210	.036	.370	.003	.023	.35									
143109	.082	1,010	.180	.024	.016	.037	.140	.170	.029	.470	.003	.026	.33									
143110	.094	.990	.190	.023	.020	.031	.130	.160	.030	.470	.003	.027	.34									
143111	.078	.980	.180	.018	.018	.035	.100	.160	.029	.440	.003	.025	.31									
143112	.099	1,000	.160	.019	.021	.033	.190	.190	.027	.450	.003	.022	.36									
143113	.103	1,040	.200	.023	.019	.033	.170	.180	.031	.450	.003	.025	.37									

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COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)												
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	CEV
143115	.098	1,010	.190	.027	.018	.037	.110	.150	.026	.420	.003	.023	.34
143116	.105	.980	.170	.026	.020	.033	.140	.160	.019	.500	.003	.025	.35
143118	.090	.990	.180	.022	.018	.037	.130	.170	.022	.470	.003	.024	.34
143119	.088	1,030	.190	.021	.020	.040	.110	.170	.022	.460	.003	.024	.34
143128	.087	.990	.220	.029	.025	.036	.170	.220	.043	.570	.003	.026	.35
143129	.084	.970	.210	.019	.023	.037	.090	.160	.030	.400	.003	.025	.31
143130	.096	.960	.190	.018	.024	.033	.100	.170	.033	.400	.003	.022	.33
143131	.111	.960	.190	.015	.018	.035	.080	.160	.032	.370	.003	.021	.34
143132	.096	1,020	.200	.015	.028	.035	.100	.150	.031	.330	.003	.018	.33
143240	.094	1,000	.180	.011	.020	.037	.070	.180	.023	.330	.003	.022	.32
143241	.090	1,070	.180	.013	.016	.036	.090	.160	.028	.310	.003	.025	.33
143242	.081	1,020	.170	.013	.019	.036	.080	.160	.024	.350	.003	.028	.31
143243	.083	1,020	.200	.012	.020	.037	.080	.160	.021	.320	.003	.035	.31
143245	.087	1,010	.170	.011	.016	.038	.080	.180	.031	.370	.003	.034	.32
143247	.093	1,010	.190	.015	.020	.033	.090	.180	.033	.370	.003	.035	.33
143248	.090	1,040	.170	.015	.029	.032	.120	.180	.032	.350	.003	.031	.34
143249	.081	1,030	.180	.014	.020	.037	.140	.180	.032	.370	.003	.029	.33
143251	.092	1,000	.190	.018	.021	.035	.100	.180	.029	.330	.003	.027	.33
143252	.098	.970	.150	.016	.013	.034	.110	.210	.030	.390	.003	.039	.33
143253	.089	1,020	.190	.014	.031	.033	.090	.190	.028	.380	.003	.032	.33
143254	.100	.970	.180	.013	.031	.038	.080	.180	.025	.360	.003	.029	.33
143256	.095	.990	.180	.015	.037	.035	.090	.160	.022	.390	.003	.035	.33
143257	.096	.980	.170	.017	.023	.035	.100	.150	.022	.370	.003	.031	.33
143283	.094	.990	.160	.016	.018	.036	.100	.180	.027	.390	.003	.025	.33
143289	.101	.990	.170	.019	.018	.036	.120	.170	.034	.390	.003	.033	.35
143290	.101	1,000	.170	.030	.014	.038	.130	.170	.084	.430	.003	.033	.35
143291	.088	1,030	.200	.024	.020	.038	.140	.250	.044	.440	.003	.042	.34
143292	.098	1,010	.170	.019	.021	.040	.140	.220	.043	.340	.003	.033	.35

DEL ORIGINAL
 AMARRA
 TEL. 36-70-00

REMISION
 No. 399

PROPIEDADES MECANICAS
 MECHANICAL PROPERTIES

COLADA HEAT	ReH MPa	Rm MPa	A% (0-8°)
W-14x22	399	537	22,7
W-14x22	395	543	25,1
W-14x22	405	538	24,3
W-14x22	401	587	22,2
W-14x22	401	537	22,2
W-14x22	425	572	24,5
W-18x35	387	518	22,9
W-18x35	397	533	22,7
W-18x35	381	511	23
W-18x35	400	537	22,6
W-18x35	404	540	22,6
W-18x35	396	520	22,9
W-18x35	397	515	22,4
W-18x35	388	507	22,3
W-18x35	391	516	23,7
W-18x35	390	515	27,5

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MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% L0=8"	
B11	D03	C11		C12		C13	
W-18x76	142089	383	375	508	504	25,6	25,
W-18x76	142120	397	381	510	502	22,8	21,9
W-18x76	142124	395	381	509	499	25,7	25,2
W-18x76	142125	429	413	558	544	24,1	23,3
W-18x76	142128	396	392	536	514	23,9	23,1
W-18x76	142129	388	384	524	507	24,3	24,2
W-18x76	142130	393	389	524	518	23,3	23,
W-18x76	142829	392	390	517	515	22,4	21,9
W-18x76	142830	382	366	513	492	25,1	24,2
W-18x76	142831	388	382	513	495	26,	25,1
W-18x76	142832	387	376	510	489	26,4	26,2
W-18x76	142833	383	381	505	501	23,4	23,2
W-18x76	142834	403	397	534	516	26,3	25,3
W-18x76	142835	392	390	531	521	25,	24,6
W-18x76	142836	378	362	498	494	25,4	25,3
W-18x76	143128	402	386	510	502	23,9	23,8
W-18x76	143129	410	401	534	520	24,6	24,4
W-18x76	143130	374	370	500	482	22,4	21,9
W-18x76	143131	395	382	512	508	25,	24,2
W-18x76	143132	399	387	522	504	22,1	22,
W-18x86	143102	410	396	536	535	24,3	23,8
W-18x86	143103	402	395	551	541	22,5	22,1
W-18x86	143104	419	419	564	554	22,5	22,
W-18x86	143105	383	375	493	489	22,2	22,
W-18x86	143106	426	426	579	557	22,3	22,3
W-18x86	143107	435	425	562	560	25,5	25,
W-18x86	143109	397	385	534	514	24,9	24,6
W-18x86	143110	383	369	496	492	24,8	24,1
W-18x86	143111	441	431	582	578	22,5	22,1
W-18x86	143112	426	424	573	561	23,7	23,3
W-18x86	143113	402	398	538	518	25,4	24,6
W-18x86	143115	385	382	519	503	22,4	21,9
W-18x86	143116	398	392	529	516	22,3	22,1
W-18x86	143118	386	384	499	495	22,8	22,3
W-18x86	143119	392	380	507	497	22,3	21,8
W-24x76	143240	419	409	560	544	23,1	22,6
W-24x76	143241	410	406	546	542	23,7	23,
W-24x76	143242	380	379	504	491	24,2	23,8
W-24x76	143243	417	407	558	540	23,3	22,9
W-24x76	143245	424	410	522	502	25,	24,3
W-24x84	143247	407	397	524	522	23,6	22,9
W-24x84	143248	390	378	506	503	23,8	23,8
W-24x84	143249	391	381	517	513	23,4	23,2
W-24x84	143289	376	376	522	516	24,3	23,4
W-24x94	143251	378	364	500	500	24,3	23,9
W-24x94	143252	372	364	500	484	26,	25,1
W-24x94	143253	381	376	509	499	27,2	26,7
W-24x94	143254	374	361	503	489	23,5	22,7

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		ReH MPa		Rm MPa		A% L0=8"	
<small>B17</small>	<small>B08</small>	<small>C17</small>		<small>C17</small>		<small>C19</small>	
W-24x94	143256	367	361	488	478	25,	24,2
W-24x94	143257	383	377	498	486	26,1	25,7
W-24x94	143283	377	369	503	491	23,6	23,2
W-24x94	143290	392	388	531	509	24,7	23,7
W-24x94	143291	406	399	532	512	25,8	25,3
W-24x94	143292	390	374	510	508	23,9	23,3

70 análisis

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

B08: Marca AMO

Z01

Lorenzo Zabala

ESTE FERRE BARNIEDO S.A. DE C.V.
 ESTE CERTIFICADO DE PROBABILIDAD ORIGINAL DE FERRE BARNIEDO S.A. DE C.V.
 AMPARA LA REMISION DE LAS COPIAS DE ESTE CERTIFICADO ORIGINAL A LOS
 TEL. 58-36-10-00
 ventas@ferrebarniedo.com.mx