

A01

ArçelorMittal Gipuzkoa, S.L.U.
ArçelorMittal Europe – Long Products
 CARRETERA MADRID - IRUN, KM. 419
 20212 OLABERRIA (Guipúzcoa)
 TELEF. (943) 80.50.00 - FAX (943) 88.04.04



ArçelorMittal

MILL TEST CERTIFICATE

OLA P-41229

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 (Guipúzcoa) TELEF. (943) 80.50.00 - FAX (943) 88.04.04			PASAJES, SPAIN
		PORT OF DISCHARGE	VESSEL
		ALTAMIRA	.AMURBORG
OUR REFERENCE	CONTRACT NUMBER	ORDER NUMBER	DATE
P1704509	01-E-48301 / 1700018778	601004	31/08/2014

WIDE FLANGE BEAMS

SIZE	LENGTH	BUNDLES	PIECES BUNDLES	TOTAL PIECES	WEIGHT BUNDLES	TOTAL WEIGHT	HEAT
+/WHITE							
WF BEAMS 10x54	40'	13	4	52	3919	50.947	152900,152901
WF BEAMS 10x60	40'	26	4	104	4354	113.204	152945,152946,152947
WF BEAMS 10x68	40'	2	4	8	4935	9.870	152930
WF BEAMS 10x68	40'	1	2	2	2468	2.468	149412
WF BEAMS 10x77	40'	17	3	51	4191	71.247	151795,152957
WF BEAMS 10x77	40'	2	2	4	2794	5.588	151795,152957
WF BEAMS 14x68	40'	16	4	64	4935	78.960	152967,152968,152969
WF BEAMS 14x82	40'	23	3	69	4463	102.649	152961,152962,152963,152964
WF BEAMS 16x67	40'	69	3	207	3647	251.643	152950,152951,152952,152953,152954,152955,152956
WF BEAMS 16x100	40'	16	3	48	5443	87.088	152947,152948,152949
WF BEAMS 18x76	40'	27	3	81	4137	111.699	152820,152821,152831,152832,152833,152834,152863,152864,152866,152867,152868,152869
WF BEAMS 18x86	40'	27	3	81	4681	126.387	152845,152846,152847,152849,152850,152851,152856
WF BEAMS 24x55	40'	60	5	300	4990	299.400	152982,152983,152984,152985,152986,152987,152988

TOTAL BUNDLES

299

TOTAL WEIGHT

1.311.150 Kg.

A02 EN 10204/3.1

CSA G40.21 50W/ASTM A572 G50/A992/A6

(B01/B02/B03) A03

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COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)														CEV			
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	Al	CEV				
149412	,088	,860	,190	,020	,020	,053	,130	,170	,034	,370	,003	,020	,002	,31				
151795	,075	,740	,160	,015	,022	,060	,110	,200	,030	,370	,003	,030	,002	,28				
152820	,104	,720	,170	,027	,023	,048	,170	,150	,019	,480	,003	,031	,003	,31				
152821	,105	,710	,200	,028	,019	,043	,170	,150	,020	,470	,003	,029	,003	,31				
152831	,084	,740	,190	,026	,023	,046	,160	,160	,022	,420	,003	,028	,003	,29				
152832	,084	,760	,180	,026	,019	,055	,150	,170	,023	,430	,003	,031	,003	,30				
152833	,122	,750	,190	,024	,019	,046	,150	,140	,022	,420	,003	,026	,001	,33				
152834	,099	,750	,180	,025	,020	,043	,160	,170	,029	,420	,003	,028	,003	,31				
152845	,081	,740	,190	,023	,021	,048	,120	,140	,019	,430	,003	,042	,004	,28				
152846	,080	,760	,200	,027	,022	,045	,140	,140	,021	,400	,003	,034	,003	,28				
152847	,085	,770	,190	,019	,017	,046	,110	,120	,017	,350	,003	,028	,004	,28				
152849	,100	,770	,180	,019	,020	,045	,100	,130	,020	,400	,003	,029	,003	,30				
152850	,095	,720	,170	,017	,021	,045	,110	,140	,024	,510	,003	,034	,004	,29				
152851	,104	,790	,190	,026	,020	,043	,170	,130	,021	,460	,003	,032	,003	,32				
152856	,108	,750	,150	,021	,020	,049	,160	,160	,021	,400	,003	,030	,001	,32				
152863	,099	,780	,190	,025	,021	,043	,160	,140	,021	,330	,003	,028	,003	,31				
152864	,123	,790	,150	,025	,026	,045	,170	,150	,028	,330	,003	,033	,002	,34				
152866	,103	,780	,200	,024	,024	,045	,150	,150	,020	,370	,003	,027	,003	,30				
152867	,097	,760	,190	,025	,022	,050	,160	,160	,025	,390	,003	,030	,004	,30				
152868	,092	,750	,170	,022	,021	,060	,170	,160	,026	,390	,003	,030	,004	,30				
152869	,115	,800	,200	,021	,020	,056	,150	,160	,027	,370	,003	,030	,004	,33				
152900	,083	,700	,200	,031	,019	,043	,170	,140	,021	,470	,003	,027	,005	,29				
152901	,078	,730	,220	,034	,019	,041	,150	,140	,019	,480	,003	,031	,006	,28				
152930	,101	,790	,190	,016	,018	,042	,120	,140	,024	,410	,003	,031	,001	,30				
152945	,095	,730	,150	,016	,018	,052	,130	,200	,035	,480	,003	,027	,001	,31				
152946	,118	,690	,200	,028	,019	,047	,200	,230	,046	,470	,003	,038	,002	,34				
152947	,112	,690	,240	,030	,021	,045	,160	,200	,033	,500	,003	,040	,003	,32				
152948	,097	,750	,200	,029	,019	,044	,180	,200	,029	,470	,003	,033	,002	,32				
152949	,107	,740	,190	,034	,019	,045	,180	,180	,025	,480	,003	,034	,003	,32				
152950	,103	,720	,200	,034	,019	,044	,190	,170	,025	,450	,003	,033	,001	,32				
152951	,115	,750	,190	,031	,020	,051	,200	,180	,025	,450	,003	,033	,001	,32				
152952	,099	,760	,200	,026	,020	,047	,210	,170	,023	,470	,003	,036	,003	,32				
152953	,108	,720	,200	,021	,018	,047	,180	,190	,031	,480	,003	,033	,001	,32				
152954	,095	,700	,190	,020	,020	,047	,140	,150	,020	,400	,003	,027	,003	,29				
152955	,101	,700	,190	,019	,021	,049	,120	,180	,031	,360	,003	,028	,003	,29				
152956	,106	,720	,170	,027	,018	,048	,150	,200	,035	,400	,003	,035	,002	,31				
152957	,110	,710	,190	,029	,020	,048	,170	,190	,030	,370	,003	,042	,001	,32				
152961	,098	,700	,160	,024	,020	,041	,140	,240	,048	,380	,003	,038	,002	,30				
152962	,095	,730	,200	,030	,019	,043	,210	,200	,035	,420	,003	,034	,002	,32				
152963	,122	,900	,180	,028	,016	,049	,170	,180	,032	,430	,003	,035	,001	,36				
152964	,079	,780	,180	,019	,020	,045	,140	,180	,030	,400	,003	,026	,001	,29				
152967	,105	,730	,190	,022	,018	,055	,140	,170	,025	,380	,003	,034	,003	,31				
152968	,103	,790	,190	,024	,020	,047	,190	,160	,024	,410	,003	,029	,001	,32				
152969	,098	,740	,170	,027	,018	,048	,210	,190	,022	,400	,003	,026	,001	,32				
152982	,090	,720	,200	,024	,018	,047	,130	,170	,028	,330	,003	,032	,003	,28				
152983	,105	,740	,200	,021	,020	,044	,110	,170	,027	,360	,003	,028	,002	,30				
152984	,085	,760	,190	,019	,023	,043	,110	,160	,024	,370	,003	,029	,001	,28				
152985	,080	,770	,210	,019	,023	,043	,130	,210	,034	,410	,003	,027	,001	,29				

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OLA P-41229

COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)																	
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	Al	CEV				
152986	.120	.830	.190	.023	.019	.044	.110	.190	.027	.430	.003	.028	.001	.34				
152987	.079	.730	.200	.022	.019	.043	.160	.160	.025	.430	.003	.026	.002	.29				
152988	.098	.710	.200	.033	.020	.044	.200	.150	.022	.470	.003	.027	.003	.31				

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa	Rm MPa	A% LO=8"			
W-10x54	152900	400	390	511	508	23,2	22,7
W-10x54	152901	399	374	491	516	22,9	23,2
W-10x60	152945	396	391	506	503	22,6	22,3
W-10x60	152946	421	418	549	535	23,9	23,3
W-10x60	152947	413	411	528	524	22,9	22,7
W-10x68	149412	374	368	493	492	25,7	24,9
W-10x68	152930	379	377	499	491	25,4	25,
W-10x77	151795	413	405	513	511	25,7	25,7
W-10x77	152957	378	369	507	499	26,1	25,4
W-14x68	152967	410	396	526	506	23,2	22,5
W-14x68	152968	402	400	534	521	23,8	23,2
W-14x68	152969	420	420	559	545	22,5	21,9
W-14x82	152961	361	356	490	482	23,4	22,8
W-14x82	152962	395	388	522	509	25,5	25,1
W-14x82	152963	378	366	495	495	22,4	22,
W-14x82	152964	367	354	483	476	23,6	23,1
W-16x100	152947	391	381	516	500	25,2	25,
W-16x100	152948	396	394	528	508	25,4	25,3
W-16x100	152949	402	393	539	527	24,	23,7
W-16x67	152950	432	418	551	527	22,7	21,9
W-16x67	152951	422	416	554	550	22,3	22,6
W-16x67	152952	442	408	526	522	23,3	22,5
W-16x67	152953	403	389	522	503	22,6	22,5
W-16x67	152954	400	386	518	499	23,6	22,7
W-16x67	152955	385	371	494	490	23,2	22,4
W-16x67	152956	388	380	491	492	25,	24,8
W-18x76	152820	396	390	519	509	25,6	24,6
W-18x76	152821	401	393	527	513	22,7	22,6
W-18x76	152831	388	372	524	499	25,2	24,1
W-18x76	152832	387	426	495	487	22,5	25,1
W-18x76	152833	360	370	509	516	24,7	25,
W-18x76	152834	343	439	490	495	23,	24,
W-18x76	152863	446	450	549	551	27,6	27,3
W-18x76	152864	443	368	520	526	25,5	21,7
W-18x76	152866	396	386	508	490	23,7	22,9
W-18x76	152867	405	397	523	515	26,6	27,7
W-18x76	152868	409	397	516	514	23,3	22,6
W-18x76	152869	412	396	525	503	28,8	28,2
W-18x86	152845	382	381	500	498	22,7	22,3
W-18x86	152846	385	374	501	489	23,3	22,7
W-18x86	152847	414	413	530	510	23,4	23,6

FERRE BARRIADO, S.A. DE
 CERTIFICADO ORIGINAL DE
 LA REMISION NUESTROS ARCHIVOS
 58-36-10-00 ventas@ferrebarrido.com.mx

A01

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MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% L0=8"	
B71	B00	C11		C12		C13	
W-18x86	152849	384	376	501	483	22,5	22,2
W-18x86	152850	393	383	508	506	22,9	22,5
W-18x86	152851	451	447	588	564	23,	22,6
W-18x86	152856	409	393	499	536	22,4	22,9
W-24x55	152982	383	374	496	486	24,5	23,9
W-24x55	152983	380	373	493	484	25,	24,5
W-24x55	152984	392	380	504	494	25,9	25,5
W-24x55	152985	401	390	511	491	22,8	22,5
W-24x55	152986	397	381	512	506	24,7	24,1
W-24x55	152987	400	386	517	506	24,7	24,4
W-24x55	152988	393	383	504	502	22,6	22,6

51 análisis

D01: Certificamos que los aceros arriba indicados han sido satisfactoriamente probados de acuerdo con la especificación.
 B06: Marca AMO

Responsable del Departamento de Calidad Z01


 Lorenzo Zabala

FERRE BARNIEDO, S.A. DE C.V.
 ESTE CERTIFICADO ES COPIA FIEL
 DEL ORIGINAL DE NUESTROS ARCHIVOS,
 AMPARA LA REMISION No. _____
 TEL 58-36-10-00 ventas@ferrebarniedo.com.mx