

50448



SIDERURGICA BALBOA
Grupo Alfonso Gallardo
 Ctra. Badajoz n° 32. Jerez de los Caballeros
 06380 BADAJOZ

A04
SB

Customer:
 FERRE BARNIEDO S.A. de C.V. - SAN LUIS
 SAN LUIS POTOSI (MEXICO)
 78395

Date: 07/10/2013 Nr Order: FERRO4072013

3.1 MILL TEST CERTIFICATE ACCORDING TO EN 10204

Product	Designation	Standard	Length	Heat	Chemical Composition (*)																Tensile Test			
					C	Si	Mn	P	S	V	N	Cu	Cev	Nb	Mo	Ni	Cr	Ti	Rm	Re	A2	A8		
					C71	C72	C73	C74	C75	C82	C87	C80	C93	C84	C77	C78	C76	C89	C11	C12	C14	C15		
W 5x16	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132533	9	17	131	20	8	32	44	39	17	11	15	0	532	382	34	19			
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132533	9	17	131	20	8	32	44	39	17	11	15	0	525	384	34	19			
W 8x31	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132708	10	17	129	20	6	33	39	39	1	34	15	16	0	535	370	40	20		
W 8x31	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132709	10	19	135	20	10	34	12	38	40	2	30	15	17	0	535	367	40	23	
W 8x31	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132710	9	16	136	20	8	35	12	38	40	2	28	14	16	0	545	370	42	23	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132711	8	17	133	25	10	33	11	40	39	2	27	13	18	0	534	360	35	19	
W 8x31	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132711	8	17	133	25	10	33	11	40	39	2	27	13	18	0	521	362	42	22	
W 8x31	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132713	10	19	132	20	6	32	12	39	37	2	25	13	18	0	534	368	41	23	
W 4x13	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132714	9	17	131	18	15	31	11	35	38	2	21	14	15	0	532	397	42	19	
W 4x13	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132711	10	16	132	18	18	30	11	38	40	2	23	15	18	0	534	382	39	20	
W 5x16	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132843	9	16	130	22	13	29	10	39	39	2	22	13	19	0	543	385	36	20	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132843	9	16	130	22	13	29	10	39	39	2	22	13	19	0	538	378	38	19	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132843	10	16	130	22	13	29	10	39	39	2	22	13	19	0	514	374	43	23	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132843	10	17	131	18	18	31	12	41	40	2	22	13	15	0	533	390	41	21	
W 5x16	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132843	9	14	128	17	9	32	12	39	38	2	20	13	15	0	526	377	35	19	
W 5x16	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132845	9	14	128	17	9	32	12	39	38	2	20	13	15	0	530	390	40	21	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132845	10	16	127	15	8	31	10	40	38	2	23	15	13	0	532	392	36	19	
W 5x16	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132846	10	16	127	15	8	31	10	40	38	2	23	15	13	0	531	390	36	19	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132846	10	16	127	15	8	31	10	40	38	2	23	15	13	0	536	395	40	23	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132846	10	16	127	15	8	31	10	40	38	2	23	15	13	0	537	390	39	19	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132847	10	16	129	18	8	31	11	38	39	2	23	15	15	0	513	394	41	21	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132848	10	17	128	15	19	34	11	34	38	2	21	14	14	0	528	388	36	19	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132848	10	17	128	15	19	34	11	34	38	2	21	14	14	0	527	401	41	23	
W 21x44	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132849	12	16	129	18	10	33	12	37	41	2	24	15	17	0	553	401	34	19	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132849	12	16	129	18	10	33	12	37	41	2	24	15	17	0	546	394	38	20	
W 24x55	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132850	11	18	131	18	11	32	11	35	40	2	23	15	17	0	518	382	40	20	
W 5x19	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132850	11	18	131	18	11	32	11	35	40	2	23	15	17	0	511	369	39	20	
W 24x55	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	2132850	11	18	131	18	11	32	11	35	40	2	23	15	17	0	511	378	39	19	
W 24x55	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	132904	11	20	131	20	12	31	10	37	41	1	22	14	19	0	511	378	39	19	
W 24x55	A992/A572 Grade 50	ASTM A992/A572	A6/A6M	12.192	132905	9	17	134	16	13	32	12	31	37	2	20	13	14	0	501	371	40	20	

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B14
 * C, Mn, Si, Cr, Ni, Cu, Cev in hundredths
 * S, P, N, Mo, Nb, Ti, V in thousandths
 Geometry: The product fulfills with dimensions and tolerances standards.

B15
 Tensile strength (Rm) in MPa.
 Yield strength (Re) in MPa.
 Elongation (A2, A8) in %

B16

CONTROL OF QUALITY A05

Sum

By Quality Manager. Tomás Chiscano Espejo Z03