

Arcelor Madrid, S.L.  
Long Carbon Steel Europe

Sections

CARRETERA TOLEDO, N-401 - KM. 9,200

28021 VILLAVERDE (Madrid)

TELEF. (91) 797.23.00 - FAX (91) 795.31.81

AT'N: Ing. Domingo Blanco

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QUALITY CERTIFICATE

APS P-6856

COLADA HEAT	COMPOSICION QUIMICA (%) CHEMICAL COMPOSITION (%)												
	C	Mn	Si	P	S	V	Cr	Ni	Mo	Cu	Nb	Sn	CEV
66385	.084	.927	.235	.012	.026	.003	.055	.092	.013	.382	.017	.013	.28
66386	.092	.920	.216	.016	.028	.003	.079	.098	.016	.363	.018	.017	.30
66387	.083	.970	.175	.015	.029	.004	.074	.093	.016	.315	.017	.016	.29
66388	.078	.877	.213	.014	.024	.003	.085	.109	.021	.327	.018	.018	.28
66389	.084	.803	.202	.022	.021	.003	.132	.121	.014	.475	.017	.034	.29
66390	.079	.750	.199	.022	.024	.003	.146	.127	.014	.511	.017	.044	.28
66391	.085	.817	.207	.019	.019	.002	.132	.099	.015	.478	.018	.041	.29
66392	.089	.868	.211	.012	.020	.003	.099	.092	.015	.355	.017	.034	.29
66393	.085	.819	.222	.017	.020	.002	.110	.132	.020	.382	.017	.028	.28
66395	.093	.747	.194	.015	.017	.002	.117	.104	.016	.442	.016	.024	.28
66399	.092	.833	.249	.025	.023	.003	.113	.099	.014	.399	.018	.028	.29
66401	.086	.839	.215	.022	.018	.003	.144	.094	.013	.402	.017	.024	.29
66403	.092	.891	.191	.016	.024	.003	.109	.139	.017	.479	.017	.023	.31
66404	.099	.783	.186	.029	.018	.003	.110	.115	.015	.521	.017	.035	.30
66405	.073	.798	.187	.024	.021	.003	.115	.155	.016	.605	.017	.030	.28
66406	.085	.769	.192	.021	.021	.003	.160	.128	.018	.481	.016	.026	.29
66407	.088	.820	.197	.018	.026	.003	.124	.105	.014	.496	.017	.028	.29
66408	.091	.842	.209	.023	.023	.004	.166	.103	.014	.487	.017	.025	.31
66409	.085	.810	.201	.025	.025	.003	.156	.124	.019	.534	.016	.026	.30
66410	.088	.808	.220	.020	.023	.003	.115	.147	.016	.501	.016	.037	.29
66411	.087	.814	.201	.017	.024	.003	.102	.112	.014	.411	.016	.039	.28
66412	.080	.774	.201	.028	.021	.003	.173	.122	.016	.508	.016	.026	.29
66413	.081	.787	.196	.024	.022	.003	.135	.109	.017	.488	.018	.027	.28
66414	.089	.810	.213	.020	.023	.002	.131	.124	.017	.473	.017	.030	.29
66415	.090	.826	.175	.024	.025	.002	.105	.105	.018	.436	.017	.027	.29
66417	.096	.797	.199	.030	.028	.003	.129	.110	.017	.573	.018	.027	.30
66427	.081	.792	.197	.024	.021	.003	.185	.122	.017	.460	.016	.025	.29
66441	.083	.813	.208	.022	.024	.002	.101	.115	.019	.510	.017	.021	.28

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=2"	
011	001	011		011		013	
W-14x61	66377	374	378	484	487	20,9	20,7
W-14x61	66378	364	370	480	486	21,	20,8
W-14x61	66379	364	366	485	489	20,6	20,4
W-14x68	66382	371	375	488	493	20,8	20,8
W-14x68	66383	373	375	480	485	21,1	20,9
W-14x68	66384	363	365	485	488	21,9	21,7
W-14x68	66385	348	354	479	482	21,5	21,1
W-14x74	66377	357	360	475	479	22,7	22,4
W-14x74	66385	358	364	473	477	22,5	22,3
W-14x74	66386	361	365	478	483	22,4	22,1
W-14x74	66387	353	355	473	478	22,7	22,4
W-14x82	66387	347	350	456	459	23,4	23,2
W-14x82	66388	353	357	463	466	22,4	22,4
W-14x82	66389	372	376	480	484	21,4	21,2
W-24x68	66390	389	393	487	490	23,6	23,4
W-24x68	66391	395	398	497	501	24,4	24,1

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## QUALITY CERTIFICATE

## APS P-6856

MATERIAL SIZE	COLADA HEAT	PROPIEDADES MECANICAS MECHANICAL PROPERTIES					
		ReH MPa		Rm MPa		A% LO=2"	
D11	B00	D11		E19		E19	
× W-24x68	66392	373	378	485	489	26,1	25,7
× W-24x68	66393	392	393	486	495	24,	23,6
× W-24x68	66395	399	402	486	497	24,4	24,2
× W-24x68	66399	393	396	494	498	24,2	23,9
× W-24x68	66401	387	389	498	502	24,3	24,1
W-24x76	66403	371	373	481	485	25,3	25,
W-24x76	66404	380	384	486	489	25,4	25,
W-24x76	66405	375	381	482	487	24,7	24,4
W-24x76	66406	371	374	471	475	26,	25,7
W-24x76	66407	372	378	491	496	24,5	24,3
W-24x76	66408	389	371	476	479	24,6	24,2
W-24x76	66409	387	389	494	496	24,2	23,9
W-24x76	66441	363	367	471	475	24,6	24,3
W-24x84	66410	391	394	500	502	24,2	23,9
W-24x84	66411	372	376	472	476	24,	23,7
W-24x84	66412	396	399	503	506	23,5	23,3
W-24x84	66413	405	407	509	513	23,4	22,9
W-24x84	66414	384	388	494	498	24,3	24,
W-24x84	66415	377	381	480	485	23,7	23,6
W-24x84	66417	375	377	484	486	25,3	25,
W-24x84	66427	372	377	479	482	24,	23,6

### 34 análisis

D01: Certificamos que los aceros arriba indicados han sido satisfactoriamente probados de acuerdo con la especificación.  
B00: Marca APM

Z01

Javier Aseguinolaza

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