



MAANSHAN IRON AND STEEL CO., LTD.

CERTIFICATE OF PRODUCT QUALITY

Customer: TEWOO METAL (H.K.) LIMITED

Material description: HOT ROLLED STEEL H-BEAM.

Steel type: ALLOYED, HOT/COLD ROLLED NO ALLOYED, ETC

Specification: ASTM A6/A6M-2009 ASTM A572/A572M-2012

ASTM A992/A992M-2011(B:0.0008%-0.0040%)

ADD: NO.8 JIUHUA WEST ROAD, MAANSHAN

CITY, ANHUI PROVINCE, P.R. CHINA

POSTCODE: 243000 TEL: (0555)2877326

QUALITY DEPARTMENT: BILU YU

TEL: (0555)2877321

QUALITY NO.: QSR8132703406

CONTRACT NO.: 16MGE-B-9-100-1



DATE: 2016-7-6

LOT No.	Heat No.	Steel Grade	Size (INCH)	Length (M)	Pieces	Theoretical Weight (MT)	Chemical Composition (%)											Mechanical Properties						
							C	Si	Mn	P	S	Cr	Ni	Cu	V	Mo	Nb	B	CEV	Sn	Yield Strength σ_s (Mpa)	Tensile Strength σ_b (Mpa)	Elongation $\delta 200$ (%)	Yield Ratio
116060249	18402249	MC345B	W14*99	12.192	21	37.632	0.16	0.28	1.24	0.029	0.013	0.03	0.02	0.02	0.023	0.002	0.001	0.0014	0.38		370	514	27.5	0.72
116060424	16304844	MC345B	W16*26	12.192	49	23.177	0.16	0.22	1.03	0.031	0.022	0.03	0.01	0.01	0.019	0.003	0.001	0.0011	0.34		373	493	21.5	0.76
116060425	16105066	MC345B	W16*26	12.192	7	3.311	0.15	0.22	1.04	0.030	0.021	0.10	0.01	0.01	0.017	0.004	0.001	0.0016	0.35		379	504	21.5	0.75
116060400	16204677	MC345B	W16*31	12.192	40	22.48	0.16	0.24	1.10	0.029	0.014	0.03	0.01	0.02	0.019	0.002	0.001	0.0014	0.36		370	495	25.0	0.75
116063400	16204677	MC345B	W16*31	12.192	8	4.496	0.16	0.24	1.10	0.029	0.014	0.03	0.01	0.02	0.019	0.002	0.001	0.0014	0.36		367	495	25.0	0.74
116060380	16105037	MC345B	W16*36	12.192	2	1.292	0.16	0.27	1.30	0.031	0.022	0.03	0.01	0.02	0.026	0.002	0.001	0.0018	0.39		374	503	22.5	0.74
116060381	16204671	MC345B	W16*36	12.192	16	10.336	0.16	0.24	1.07	0.025	0.022	0.02	0.01	0.02	0.021	0.002	0.002	0.0012	0.35		370	500	22.5	0.74
116060382	16204671	MC345B	W16*36	12.192	22	14.212	0.16	0.24	1.07	0.025	0.022	0.02	0.01	0.02	0.021	0.002	0.002	0.0012	0.35		377	509	23.5	0.74
116060383	16204672	MC345B	W16*36	12.192	32	20.672	0.16	0.22	1.07	0.026	0.017	0.03	0.01	0.02	0.019	0.002	0.001	0.0012	0.35		369	506	24.5	0.73
116060348	16204660	MC345B	W16*40	12.192	22	16.104	0.17	0.29	1.27	0.024	0.017	0.03	0.01	0.01	0.023	0.003	0.002	0.0013	0.39		416	518	25.0	0.80
116060349	16204660	MC345B	W16*40	12.192	38	27.816	0.17	0.29	1.27	0.024	0.017	0.03	0.01	0.01	0.023	0.003	0.002	0.0013	0.39		405	524	25.0	0.77
116060351	16105021	MC345B	W16*40	12.192	1	0.732	0.17	0.32	1.27	0.024	0.023	0.02	0.01	0.01	0.023	0.003	0.002	0.0013	0.39		401	520	26.0	0.77
116060353	16105022	MC345B	W16*40	12.192	5	3.66	0.17	0.28	1.27	0.023	0.019	0.02	0.01	0.01	0.023	0.003	0.002	0.0013	0.39		417	519	26.0	0.80
116060333	16304820	MC345B	W16*45	12.192	12	9.804	0.17	0.30	1.28	0.032	0.017	0.02	0.01	0.01	0.025	0.002	0.002	0.0014	0.39		374	530	22.5	0.71
116060334	16304820	MC345B	W16*45	12.192	6	4.902	0.17	0.30	1.28	0.032	0.017	0.02	0.01	0.01	0.025	0.002	0.002	0.0014	0.39		372	524	23.0	0.71
116060335	16105020	MC345B	W16*45	12.192	15	12.255	0.16	0.31	1.31	0.024	0.017	0.02	0.01	0.02	0.026	0.005	0.002	0.0013	0.39		373	523	22.5	0.71
116060317	16304818	MC345B	W16*50	12.192	12	10.968	0.19	0.31	1.30	0.029	0.014	0.02	0.01	0.02	0.025	0.003	0.002	0.0017	0.42		388	517	27.0	0.75
116060318	16105017	MC345B	W16*50	12.192	26	23.764	0.15	0.34	1.29	0.030	0.017	0.02	0.01	0.01	0.024	0.003	0.003	0.0012	0.38		386	534	25.5	0.72
116060319	16105017	MC345B	W16*50	12.192	4	3.656	0.15	0.34	1.29	0.030	0.017	0.02	0.01	0.01	0.024	0.003	0.003	0.0012	0.38		408	529	26.0	0.77
116060304	16105015	MC345B	W16*67	12.192	28	29.008	0.17	0.31	1.24	0.029	0.022	0.02	0.01	0.01	0.022	0.003	0.001	0.0013	0.39		412	578	26.0	0.71