



# 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 $\sigma_e$ (Mpa)	Tensile Strength $\sigma_b$ (Mpa)	Elongation $\delta$ 200 (%)
116060749	16204699	MC345B	W18*35	12.192	19	12.046	0.16	0.24	1.04	0.024	0.020	0.03	0.01	0.03	0.017	0.002	0.001	0.0011	0.35	371	515	26.0	0.720
116060739	16204730	MC345B	W18*40	12.192	18	13.176	0.18	0.30	1.26	0.029	0.017	0.03	0.01	0.02	0.022	0.005	0.002	0.0014	0.40	382	536	23.5	0.710
116060740	16204730	MC345B	W18*40	12.192	36	26.352	0.18	0.30	1.26	0.029	0.017	0.03	0.01	0.02	0.022	0.005	0.002	0.0014	0.40	375	531	23.0	0.710
116060731	16304874	MC345B	W18*46	12.192	16	13.264	0.18	0.29	1.26	0.030	0.018	0.04	0.01	0.03	0.025	0.004	0.002	0.0013	0.41	385	530	24.5	0.730
116060732	16105093	MC345B	W18*46	12.192	24	19.896	0.16	0.28	1.20	0.031	0.024	0.03	0.01	0.03	0.020	0.003	0.001	0.0015	0.37	394	523	25.5	0.750
116060716	16304875	MC345B	W18*50	12.192	2	1.804	0.15	0.23	1.21	0.026	0.018	0.03	0.01	0.02	0.026	0.004	0.002	0.0020	0.37	358	509	26.0	0.703
116060717	16304874	MC345B	W18*50	12.192	32	28.864	0.18	0.29	1.26	0.030	0.018	0.04	0.01	0.03	0.025	0.004	0.002	0.0013	0.41	367	519	25.0	0.707
116060718	16304874	MC345B	W18*50	12.192	21	18.942	0.18	0.29	1.26	0.030	0.018	0.04	0.01	0.03	0.025	0.004	0.002	0.0013	0.41	369	530	25.0	0.696
116060701	16105096	MC345B	W18*60	12.192	6	6.51	0.18	0.33	1.29	0.030	0.020	0.04	0.01	0.03	0.023	0.005	0.002	0.0016	0.41	369	533	26.5	0.890
116060702	16204733	MC345B	W18*60	12.192	9	9.765	0.17	0.30	1.28	0.030	0.019	0.07	0.01	0.03	0.023	0.007	0.002	0.0014	0.41	391	533	26.5	0.730
116060703	16204733	MC345B	W18*60	12.192	19	20.615	0.17	0.30	1.28	0.030	0.019	0.07	0.01	0.03	0.023	0.007	0.002	0.0014	0.41	412	533	26.5	0.770
116060696	16105023	MC345B	W18*65	12.192	6	7.098	0.17	0.30	1.33	0.023	0.019	0.03	0.01	0.01	0.023	0.004	0.002	0.0013	0.40	394	526	26.5	0.750
116060697	16105096	MC345B	W18*65	12.192	30	35.49	0.18	0.33	1.29	0.030	0.020	0.04	0.01	0.03	0.023	0.005	0.002	0.0016	0.41	408	522	27.0	0.780
116060692	16105023	MC345B	W18*71	12.192	20	25.6	0.17	0.30	1.33	0.023	0.019	0.03	0.01	0.01	0.023	0.004	0.002	0.0013	0.40	385	524	26.0	0.730
116060693	16105023	MC345B	W18*71	12.192	1	1.28	0.17	0.30	1.33	0.023	0.019	0.03	0.01	0.01	0.023	0.004	0.002	0.0013	0.40	394	530	27.0	0.740
116060683	16304752	MC345B	W18*76	12.192	8	11.024	0.18	0.30	1.26	0.029	0.013	0.04	0.03	0.02	0.023	0.008	0.002	0.0014	0.41	419	560	24.5	0.750
116060684	16104961	MC345B	W18*76	12.192	15	20.67	0.17	0.28	1.27	0.032	0.012	0.06	0.01	0.02	0.036	0.004	0.002	0.0014	0.40	423	563	24.5	0.750
116060670	16304724	MC345B	W18*97	12.192	8	14.048	0.18	0.27	1.30	0.028	0.012	0.03	0.01	0.02	0.037	0.002	0.001	0.0013	0.41	416	543	27.5	0.770
116060671	16104962	MC345B	W18*97	12.192	8	14.048	0.17	0.38	1.37	0.026	0.016	0.04	0.03	0.01	0.040	0.005	0.002	0.0014	0.42	413	537	24.5	0.770
116060672	16104962	MC345B	W18*97	12.192	8	14.048	0.17	0.38	1.37	0.026	0.016	0.04	0.03	0.01	0.040	0.005	0.002	0.0014	0.42	415	541	24.5	0.770