



# 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: (0565)2877326

QUALITY DEPARTMENT: BILU YU

TEL: (0565)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	Gr	Ni	Cu	V	Mo	Nb	B	CEV	Sh	Yield Strength $\sigma_s$ (Mpa)	Tensile Strength $\sigma_b$ (Mpa)	Elongation $\delta_{200}$ (%)	Yield Ratio
216060905	16104389	MC345B	W8*10	12.192	174	31.842	0.17	0.22	0.99	0.027	0.014	0.03	0.01	0.02	0.018	0.003	0.002	0.0011	0.35		352	489	28.0	0.72
216060906	16104389	MC345B	W8*10	12.192	125	22.875	0.17	0.22	0.99	0.027	0.014	0.03	0.01	0.02	0.018	0.003	0.002	0.0011	0.35		376	514	28.5	0.73
216060925	16105615	MC345B	W8*13	12.192	112	26.32	0.16	0.27	1.22	0.030	0.019	0.04	0.01	0.02	0.024	0.002	0.002	0.0012	0.38		410	538	30.0	0.76
216060926	16105615	MC345B	W8*13	12.192	86	20.21	0.16	0.27	1.22	0.030	0.019	0.04	0.01	0.02	0.024	0.002	0.002	0.0012	0.38		396	533	30.5	0.74
216060927	16305356	MC345B	W8*13	12.192	54	12.69	0.17	0.23	1.04	0.025	0.018	0.03	0.01	0.01	0.018	0.002	0.002	0.0010	0.35		408	536	31.5	0.76
116061893	16105087	MC345B	W10*49	12.192	16	14.24	0.18	0.30	1.25	0.025	0.024	0.04	0.02	0.03	0.023	0.005	0.002	0.0014	0.41		378	514	25.0	0.740
116061894	16105096	MC345B	W10*49	12.192	24	21.36	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		388	520	24.5	0.720
116061883	16105097	MC345B	W10*54	12.192	24	23.4	0.18	0.30	1.25	0.025	0.024	0.04	0.02	0.03	0.023	0.005	0.002	0.0014	0.41		371	523	24.5	0.710
116061884	16402283	MC345B	W10*54	12.192	8	7.8	0.17	0.29	1.26	0.022	0.014	0.02	0.01	0.02	0.021	0.004	0.002	0.0013	0.39		364	511	24.0	0.710
116061868	16402283	MC345B	W10*60	12.192	26	28.21	0.17	0.29	1.26	0.022	0.014	0.02	0.01	0.02	0.021	0.004	0.002	0.0013	0.39		352	503	22.5	0.740
116061859	16402283	MC345B	W10*68	12.192	12	14.772	0.17	0.29	1.26	0.022	0.014	0.02	0.01	0.02	0.021	0.004	0.002	0.0013	0.39		411	550	20.5	0.750
116061860	16402284	MC345B	W10*68	12.192	18	22.158	0.17	0.29	1.27	0.025	0.017	0.03	0.01	0.03	0.050	0.004	0.002	0.0018	0.40		416	555	20.0	0.750
116061487	16402701	MC345B	W12*65	12.192	6	7.098	0.17	0.30	1.25	0.022	0.020	0.01	0.01	0.01	0.023	0.001	0.002	0.0014	0.39		370	529	28.5	0.700
116061488	16402701	MC345B	W12*65	12.192	20	23.66	0.17	0.30	1.25	0.022	0.020	0.01	0.01	0.01	0.023	0.001	0.002	0.0014	0.39		395	531	29.0	0.740
116061467	16104290	MC345B	W12*79	12.192	6	8.556	0.17	0.31	1.28	0.025	0.015	0.03	0.01	0.01	0.021	0.003	0.002	0.0020	0.40		358	547	25.5	0.650
116061468	16104291	MC345B	W12*79	12.192	6	8.556	0.17	0.28	1.29	0.030	0.016	0.03	0.01	0.01	0.022	0.004	0.002	0.0016	0.40		362	558	26.5	0.650
116061469	16305278	MC345B	W12*79	12.192	6	8.556	0.16	0.30	1.28	0.024	0.021	0.01	0.00	0.01	0.021	0.001	0.001	0.0013	0.38		394	536	26.0	0.580
116061454	16105535	MC345B	W12*87	12.192	15	23.695	0.18	0.29	1.26	0.021	0.013	0.02	0.01	0.01	0.037	0.002	0.002	0.0012	0.40		416	553	27.0	0.750
116060664	16304724	MC345B	W18*106	12.192	14	26.984	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		402	525	25.5	0.770
116060748	16304845	MC345B	W18*35	12.192	32	20.288	0.18	0.23	1.09	0.033	0.024	0.03	0.01	0.01	0.020	0.002	0.002	0.0013	0.37		369	512	26.0	0.720

