MILL TEST CERTIFICATE

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201305C100
Commodity	H-BEAM
Specification	ASTM A672 G50/A992/ CSA 350W

HYUNDAI STEEL

Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20130701409 - 5
Class Cert. No.	
Date of Issue	2013-07-09

Dimensions & Length	Heat No.	Pieces / Weights (kg)	Chemical Composition (%) C	Si	Mn	P	S	Cu / Ni	Mo / Cr	Al / V	Nb	Sn	CE(1)	Tensile Test: Tensile Strength	Yield point	Elongation(2)	Yield Ratio	Impact Test (V-notch): AVG	1	2	3	Remarks (Impact Specimen Size)
			×100			×1000		×100		×1000			×100	N/mm²		%		(°)	°C			
14X6-3/4X30 40.00 FT	D 114445	111 60,384	18	14	60	29	13	30 8	2 16	4	18	14	34	539.4 536.4	393.2 390.3	24.0 24.6	0.73 0.73					
14X14-1/2X90 40.00 FT	N 020344	22 35,904	20	16	67	27	15	25 7	1 12	4	17	11	36	528.6 529.6	408.9 410.9	25.0 24.5	0.77 0.78					
14X14-1/2X90 40.00 FT	N 020345	14 22,848	18	14	66	27	17	24 7	2 10	3	17	10	34	523.7 529.6	411.9 413.8	24.5 25.0	0.79 0.78					
14X14-1/2X90 40.00 FT	N 020346	4 6,528	18	17	67	27	13	24 7	2 11	4	18	11	34	530.5 534.6	408.0 409.9	25.0 25.5	0.77 0.77					
14X14-1/2X132 40.00 FT	N 020336	15 35,910	18	14	101	19	13	16 6	1 10	3	15	7	39	550.2 553.2	392.3 394.2	24.5 24.3	0.71 0.72					
14X14-1/2X132 40.00 FT	N 020337	3 7,182	15	18	112	25	14	23 7	4 10	4	18	9	38	547.2 542.3	398.1 394.2	25.0 25.3	0.73 0.73					
14X14-1/2X132 40.00 FT	N 020678	3 7,182	19	14	123	15	11	21 7	2 9	4	16	15	44	529.6 534.5	381.5 384.4	25.0 24.5	0.72 0.72					
14X14-1/2X132 40.00 FT	N 020681	5 11,970	19	14	100	24	18	16 6	2 10	4	15	8	40	556.0 557.0	408.9 409.9	25.5 25.0	0.74 0.74					
16X7X36 40.00 FT	D 114462	120 78,360	19	15	68	32	10	21 7	2 14	4	19	12	35	541.3 536.4	403.1 401.1	24.5 25.0	0.74 0.75					
SUB TOTAL		297 266,268																				

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/5+Mo/5+Ni/15+Cu/15) (2) Gauge length: 200 mm (3) Yield Ratio = YP/TS

K. S. Shim

General Manager of Q.A Team

WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ABOVE ORDER

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