

MILL TEST CERTIFICATE

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201207CF02
Commodity	H-BEAM
Specification	ASTM A36/A572 G50/A992/ CSA350W

HYUNDAI STEEL	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20120901288 - 5
Class Cert. No.	
Date of Issue	2012-09-11

Dimensions & Length	Heat No.	Pieces Weights (kg)	Chemical Composition (%)											Tensile Test			Impact Test (V-notch)				Remarks (Impact Specimen Size)	
			C	Si	Mn	P	S	Cu Ni	Mo Cr	Al V	Nb	Sn	CE ⁽¹⁾	Tensile Strength	Yield point	Elongation ⁽²⁾	Yield Ratio	AVG	1	2		3
			×100		×1000		×100		×1000			×100	N/mm ²		%		()	°C				
18X7-1/2X65 40.00 FT	E 161206	10 11,790	18	18	65	27	18	24 9	2	4	15	13	33	528.6	395.2	26.5	0.75					
18X7-1/2X65 40.00 FT	E 161207	22 25,938	18	13	60	25	22	23 9	1	2	11	12	32	529.6	411.9	26.0	0.78					
18X7-1/2X65 40.00 FT	E 161208	2 2,358	18	17	63	25	17	22 8	1	4	10	12	33	537.4	399.1	25.5	0.74					
18X7-1/2X65 40.00 FT	E 161722	38 44,802	18	14	60	29	18	25 10	2	3	10	13	33	538.4	402.1	25.0	0.75					
12X8X40 40.00 FT	E 162082	64 46,464	17	14	62	34	13	30 10	2	3	12	13	32	535.4	422.7	25.0	0.79					
12X8X40 40.00 FT	E 162094	40 29,040	19	13	64	20	15	31 10	2	3	13	14	35	531.5	421.7	26.0	0.79					
12X8X50 40.00 FT	E 162076	34 30,838	18	15	66	24	17	27 9	1	3	14	14	33	539.4	404.0	25.0	0.75					
12X8X50 40.00 FT	E 162077	30 27,210	18	12	67	33	17	29 9	2	2	15	14	35	542.3	411.9	25.0	0.76					
12X8X50 40.00 FT	E 162079	18 16,326	18	12	60	28	20	34 10	2	2	13	15	33	541.3	406.0	24.5	0.75					
SUB TOTAL		258 234,766																				

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/50+Mo/5+Ni/15+Cu/15) (2) Gauge length : 200 mm (3) Yield Ratio = YP/TS

K.S. Shim	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
General Manager of Q.A Team	