


MILL TEST CERTIFICATE

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

	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20120901288 - 11
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			
18X11X76 40.00 FT	N 017313	1 1,379	14	19	115	28	16	29 9	2 9	3	18	13	38	525.6 521.7	390.3 384.4	26.0 26.0	0.74 0.74					
18X11X76 40.00 FT	N 017316	2 2,758	19	20	66	28	15	24 8	2 9	4	15	19	34	523.7 527.6	387.4 391.3	26.0 25.5	0.74 0.74					
18X11X76 40.00 FT	N 017328	4 5,516	18	15	63	33	17	27 10	3 14	4	16	15	34	537.4 530.5	408.0 405.0	24.0 24.5	0.76 0.76					
18X11X76 40.00 FT	N 017330	1 1,379	19	14	63	35	19	28 9	2 16	2	15	18	36	525.6 529.6	394.2 398.1	26.0 25.5	0.75 0.75					
18X11X76 40.00 FT	N 017332	2 2,758	20	19	67	33	17	24 10	2 12	4	17	17	36	546.2 541.3	415.8 409.9	25.5 25.5	0.76 0.76					
18X11X86 40.00 FT	N 017328	2 3,122	18	15	63	33	17	27 10	3 14	4	16	15	34	532.5 529.6	394.2 390.3	25.0 25.5	0.74 0.74					
18X11X86 40.00 FT	N 017329	9 14,049	19	15	69	33	19	31 10	2 15	3	14	17	37	535.4 531.5	402.1 397.2	25.0 25.5	0.75 0.75					
18X11X86 40.00 FT	N 017330	10 15,610	19	14	63	35	19	28 9	2 16	2	15	18	36	541.3 531.5	406.0 394.2	24.0 25.0	0.75 0.74					
21X8-1/4X62 40.00 FT	E 161036	8 9,000	19	15	66	31	14	29 10	2 9	4	11	16	35	524.7 529.6	403.1 408.0	25.0 25.0	0.77 0.77					
SUB TOTAL		39 55,571																				

(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	