


MILL TEST CERTIFICATE

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

	
Certificate No.	IH20120901288 - 10
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 017077	3 4,137	21	20	105	33	10	29 8	2 14	4	16	13	44	533.5 528.6	398.1 394.2	25.5 26.0	0.75 0.75					
18X11X76 40.00 FT	N 017100	3 4,137	9	16	135	14	3	17 7	2 5	63 48		11	37	530.5 524.7	404.0 402.1	24.5 25.0	0.76 0.77					
18X11X76 40.00 FT	N 017140	2 2,758	19	14	67	32	18	20 9	2 14	2	16	12	35	536.4 529.6	402.1 397.2	25.5 26.0	0.75 0.75					
18X11X76 40.00 FT	N 017168	6 8,274	10	22	120	11	4	14 6	2 5	36 32	23	10	33	543.3 539.4	407.0 403.1	25.0 25.5	0.75 0.75					
18X11X76 40.00 FT	N 017183	3 4,137	11	19	118	14	12	13 7	2 5	5	20	9	33	516.8 522.7	385.4 390.3	26.0 25.5	0.75 0.75					
18X11X76 40.00 FT	N 017256	3 4,137	20	21	70	27	20	25 10	2 14	3	18	12	37	519.8 523.7	386.4 390.3	26.5 26.0	0.74 0.74					
18X11X76 40.00 FT	N 017290	2 2,758	18	15	63	32	14	24 22	5 26	4	15	11	38	537.4 532.5	400.1 397.2	25.5 26.0	0.74 0.75					
18X11X76 40.00 FT	N 017294	2 2,758	18	18	67	29	20	28 9	3 14	4	15	14	35	543.3 539.4	407.0 402.1	25.0 25.0	0.75 0.74					
18X11X76 40.00 FT	N 017295	1 1,379	17	23	74	33	15	28 9	2 14	5	21	18	35	531.5 535.4	394.2 399.1	26.0 25.5	0.74 0.74					
SUB TOTAL		25 34,475																				

(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