


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 - 13
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		%		(^o)	C			
21X6-1/2X44 40.00 FT	E 162210	8 6,384	17	13	65	29	17	38 9	2 10	3	13	17	33	541.3 539.4	415.8 412.9	25.0 25.5	0.77 0.76					
21X6-1/2X44 40.00 FT	E 162211	5 3,990	17	12	63	21	18	31 9	2 8	7	13	17	32	549.2 543.3	431.5 426.6	24.5 25.0	0.79 0.78					
21X6-1/2X50 40.00 FT	E 161401	3 2,721	19	14	63	29	14	29 11	2 9	3	13	14	34	529.6 533.5	409.9 411.9	24.0 25.0	0.77 0.77					
21X6-1/2X50 40.00 FT	E 161402	1 907	19	16	66	27	3	29 9	1 10	4	15	15	35	547.2 541.3	431.5 421.7	24.5 25.0	0.79 0.78					
21X6-1/2X50 40.00 FT	E 162211	10 9,070	17	12	63	21	18	31 9	2 8	7	13	17	32	529.6 535.4	378.5 382.5	25.5 25.0	0.72 0.71					
21X6-1/2X50 40.00 FT	E 162212	40 36,280	18	14	63	31	17	31 9	2 13	5	14	13	34	549.2 545.2	424.6 421.7	24.5 25.0	0.77 0.77					
21X6-1/2X50 40.00 FT	E 162215	26 23,582	18	15	63	29	17	29 8	2 8	5	15	14	33	538.4 541.3	419.7 421.7	25.5 25.0	0.78 0.78					
21X6-1/2X50 40.00 FT	E 162216	16 14,512	18	14	62	33	18	25 8	1 9	3 16	16	16	33	537.4 540.3	404.0 408.0	25.0 25.5	0.75 0.76					
21X6-1/2X57 40.00 FT	E 162207	28 28,952	20	16	62	29	15	32 8	1 11	4	13	13	35	549.2 545.2	419.7 416.8	25.0 25.5	0.76 0.76					
SUB TOTAL		137 126,398																				

(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