

MILL TEST CERTIFICATE



Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201212C001
Commodity	H-BEAM
Specification	ASTM A36/A572 G50/A992/ CSA350W

Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20130100830 - 14
Class Cert. No.	
Date of Issue	2013-01-08

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	Mo	Al	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			
21X6-1/2X44 40.00 FT	E 164362	9 2,394	19	14	63	28	21	28	2	3	12	12	34	533.5	390.3	26.0	0.73					
21X6-1/2X44 40.00 FT	E 164411	20 15,960	17	13	60	17	16	23	7	9	13	11	31	537.4	412.9	26.9	0.77					
21X6-1/2X44 40.00 FT	E 164412	8 6,384	19	13	61	18	12	23	7	3	13	11	33	544.3	421.7	26.0	0.78					
21X6-1/2X44 40.00 FT	E 164413	43 34,314	19	14	63	28	18	22	9	9	14	10	34	549.2	431.5	26.0	0.78					
21X6-1/2X44 40.00 FT	E 164414	63 50,274	18	15	62	33	17	24	9	3	12	10	33	539.4	411.9	26.5	0.76					
21X6-1/2X44 40.00 FT	E 164415	1 798	19	14	67	35	19	25	10	4	15	11	35	532.5	398.1	25.0	0.75					
24X9X68 40.00 FT	E 164076	8 9,872	11	14	120	24	20	24	7	2	14	12	35	536.4	429.5	23.5	0.80					
24X9X68 40.00 FT	E 164077	46 56,764	18	17	67	23	11	22	7	6	12	13	33	518.8	402.1	24.5	0.77					
24X9X68 40.00 FT	E 164078	62 76,508	18	15	61	29	17	23	7	2	12	11	32	538.4	389.3	25.0	0.72					
SUB TOTAL		254 253,268																				

(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