



Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201411C321
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/ CSA 350W

# MILL TEST CERTIFICATE

		
Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea	
Certificate No.	IH20141103208 - 11	
Class Cert. No.		
Date of Issue	2014-11-17	

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 <sup>(1)</sup>	Tensile Strength	Yield point	Elongation <sup>(2)</sup>	Yield Ratio	AVG	1	2		3	
			×100	×100	×100	×1000	×1000	×100	×100	×1000	×1000	×100	×100	N/mm <sup>2</sup>	%	%	(%)	C					
21X6-1/2X44 40.00 FT	E 177874	4 3,192	18	14	51	19	7	28 8	2 8	4 8	12	4	12	31	521 523	415 417	26.0 25.0	0.80 0.80					
21X6-1/2X44 40.00 FT	E 178337	8 6,384	16	14	54	24	8	31 9	2 10	7 14	6	14	30	531 534	417 419	24.0 24.0	0.78 0.78						
21X6-1/2X50 40.00 FT	E 177812	4 3,628	16	15	60	19	15	28 10	2 8	4 16	5	16	31	530 532	448 449	21.0 21.0	0.84 0.84						
21X6-1/2X50 40.00 FT	E 177854	8 7,256	17	15	54	26	9	31 9	2 9	6 15	6	13	31	527 531	438 440	23.0 23.5	0.83 0.83						
21X6-1/2X50 40.00 FT	E 177855	17 15,419	16	13	57	26	9	31 9	2 9	5 16	6	13	31	535 532	443 441	22.5 23.0	0.83 0.83						
21X6-1/2X50 40.00 FT	E 177856	16 14,512	16	13	53	26	12	31 8	2 8	5 13	6	13	30	535 534	445 446	23.0 23.0	0.83 0.84						
21X6-1/2X50 40.00 FT	E 177859	4 3,628	17	11	54	25	16	30 8	2 8	3 4	4	12	31	535 533	444 442	22.0 22.0	0.83 0.83						
21X6-1/2X50 40.00 FT	E 177860	11 9,977	17	10	54	25	11	31 8	2 8	3 14	4	18	31	542 540	444 442	22.0 22.5	0.82 0.82						
21X6-1/2X57 40.00 FT	E 177807	12 12,408	16	12	56	21	10	28 9	2 8	4 12	5	12	30	520 522	421 423	23.5 23.0	0.81 0.81						
SUB TOTAL		84 76,404																					

(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

**J. C. Ahn**  
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

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