

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201310CM01
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/ CSA 350W

MILL TEST CERTIFICATE

H HYUNDAI STEEL	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20131101824 - 14
Class Cert. No.	
Date of Issue	2013-11-11

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	Mo	Al	Nb	Sn	CE ⁽¹⁾	Tensile Strength	Yield point	Elongation ⁽²⁾	Yield Ratio	AVG	1	2		3
			x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	x100	N/mm ²	N/mm ²	%	(%)	C				
21X8-1/4X62 40.00 FT	E 167224	5 5,625	17	11	68	28	10	27	2	3	16	12	33	525.0	403.0	25.0	0.77					
21X8-1/4X68 40.00 FT	E 170421	1 1,234	17	16	74	27	12	30	2	4	5	13	34	541.0	427.0	24.0	0.79					
21X6-1/2X50 40.00 FT	E 170478	5 4,535	17	16	76	26	14	30	2	3	5	16	35	554.0	440.0	22.5	0.80					
21X6-1/2X50 40.00 FT	E 170479	3 2,721	17	16	72	22	14	29	2	3	5	14	34	507.0	377.0	25.5	0.74					
24X9X68 40.00 FT	N 021979	12 14,808	19	21	76	19	14	21	2	6	18	10	35	565.0	441.0	23.0	0.78					
24X9X68 40.00 FT	N 021980	9 11,106	17	21	77	23	11	23	2	5	16	14	34	548.0	431.0	25.0	0.78					
24X9X68 40.00 FT	N 021981	3 3,702	18	19	74	25	15	25	2	5	16	12	35	566.0	442.0	23.1	0.78					
24X9X76 40.00 FT	E 170154	1 1,379	18	17	74	25	11	32	2	4	17	11	36	565.0	447.0	23.5	0.79					
24X9X76 40.00 FT	N 021982	11 15,169	10	20	122	18	10	21	1	20	7	11	35	519.0	421.0	24.1	0.81					
SUB TOTAL		50 60,279																				

(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