

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201408C331
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/ CSA 350W

## MILL TEST CERTIFICATE



Head Office	83, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20140901105 - 1
Class Cert. No.	
Date of Issue	2014-09-12



Dimensions & Length	Heat No.	Pieces Weights (kg)	Chemical Composition (%)											Tensile Test			Impact Test (V-notch)			Remarks (Impact Specimen)							
			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 <sup>2</sup>		%		( )	C								
18X11X97 40.00 FT	N 025432	20 35,200	19	18	63	35	10	30	2	6	11	19	21	3	14	37	542	418	26.5	0.77							
18X11X97 40.00 FT	N 025433	26 44,000	19	16	69	28	13	22	3	8	18	25	4	14	37	552	430	26.0	0.78								
18X11X97 40.00 FT	N 025435	15 26,400	19	17	64	31	8	25	2	7	13	22		15	35	537	398	26.5	0.74								
21X12-1/4X101 40.00 FT	N 025485	2 3,864	19	15	65	24	12	20	2	9	14	23	5	10	35	552	429	25.0	0.77								
21X12-1/4X101 40.00 FT	N 025486	13 23,616	19	13	66	22	10	23	2	12	19	29	5	12	36	558	440	25.5	0.78								
21X12-1/4X101 40.00 FT	N 025487	9 16,488	19	17	65	27	9	24	2	9	13	23	5	12	36	552	442	22.0	0.77								
24X12-3/4X104 40.00 FT	N 025542	4 7,548	19	14	64	24	10	22	3	4	16	23	1	10	36	544	412	24.0	0.76								
24X12-3/4X104 40.00 FT	N 025543	12 22,644	14	18	113	12	10	17	2	6	23	5	5	10	34	550	424	25.0	0.77								
24X12-3/4X104 40.00 FT	N 025548	1 1,897	17	16	69	21	8	19	3	8	18	26	5	10	34	537	407	25.5	0.75								
SUB TOTAL		101 181,647																									

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/5+Mo/5+Ni/15+Cu/15)

(2) Gauge length: 200mm

(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

HMS I 102(A)-3a

※ QR코드 (Qreal) App를 통하여 원본 확인에 사용되는 마크입니다. (QRcode scanner App : 'Qreal')

A4(210X297)

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201408C331
Commodity	H-BEAM
Specification	ASTM A572 G50/A592/ CSA 350W

## MILL TEST CERTIFICATE



Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20140901105 - 2
Class Cert. No.	
Date of Issue	2014-09-12

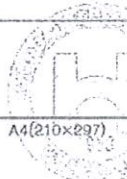


Dimensions & Length	Heat No.	Pieces	Weights (kg)	Chemical Composition (%)											Tensile Test			Impact Test (V-notch)				Remarks (Impact Specimen)			
				C	Si	Mn	P	S	Cu	Mo	Al	Nb	Sn	CE(1)	Tensile Strength	Yield Point	Elongation(2)	Yield Ratio	AVG	1	2		3		
				x100	x100	x100	x10000	x10000	x100	x100	x10000	x10000	x100	x100	N/mm <sup>2</sup>	N/mm <sup>2</sup>	%	(%)	C						
24X12-3/4X104 40.00 FT	N 025550	6	11,322	18	14	65	27	12	19	3	5	15	30	5	14	35	551	420	24.0	0.76					
24X12-3/4X104 40.00 FT	N 025552	17	32,078	18	14	67	24	12	25	6	8	18	28	5	19	35	544	411	25.0	0.76					
24X12-3/4X104 40.00 FT	N 025553	11	20,757	18	15	68	24	12	25	6	8	18	28	5	19	35	555	424	24.0	0.76					
24X12-3/4X104 40.00 FT	N 025554	2	3,774	18	14	66	20	11	24	6	9	16	26	5	13	35	544	417	25.0	0.77					
24X12-3/4X104 40.00 FT	N 025550	4	7,548	18	15	74	23	13	24	6	8	17	27	5	13	36	550	424	24.0	0.77					
TOTAL		141	257,127																						

(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



HMS I 102(A)-3a ※ QR코드 (QR Code)를 통하여 원본 확인에 사용되는 마크입니다. (QR code scanner App : 'Qreal') A4(210x297)