

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201305C100
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/ CSA 350W

## MILL TEST CERTIFICATE

<b>HYUNDAI STEEL</b>	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20130701409 - 12
Class Cert. No.	
Date of issue	2013-07-09

Dimensions & Length	Heat No.	Plecas 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 <sup>(1)</sup>	Tensile Strength	Yield point	Elongation <sup>(2)</sup>	Yield Ratio	AVG	1		2	3		
			x100			x1000		x100		x1000			x100		N/mm <sup>2</sup>		%		( )		C			
24X7X55 40.00 FT	E 168113	2,994	13	10	115	27	10	23	7	8	23		13	37	500.1 505.0	399.1 394.2	27.0 26.5	0.80 0.78						
24X7X55 40.00 FT	E 168119	7,984	19	9	64	23	19	29	9	7	16		14	34	517.8 522.7	371.7 364.8	25.5 25.0	0.72 0.70						
24X7X55 40.00 FT	E 168121	1,996	17	9	60	35	15	30	9	2	13		14	33	512.9 516.8	365.8 370.7	25.5 25.0	0.71 0.72						
24X7X55 40.00 FT	E 168123	4,990	20	9	61	30	18	27	8	2	11		13	35	510.9 514.8	369.7 373.8	25.0 26.0	0.72 0.73						
24X7X55 40.00 FT	E 168124	8,982	19	13	65	32	13	30	10	2	10		14	36	517.8 523.7	375.6 379.5	25.5 25.0	0.72 0.72						
24X7X55 40.00 FT	E 168126	1,996	18	12	63	27	17	28	9	2	11		14	34	530.5 529.5	420.7 414.8	24.0 24.5	0.79 0.78						
24X12-3/4X117 40.00 FT	N 020127	21,230	18	17	67	19	13	25	8	2	8		17	11	33	540.8 545.2	408.0 410.9	24.5 25.0	0.78 0.78					
24X12-3/4X117 40.00 FT	N 020142	10,615	18	16	65	24	15	19	7	2	12		15	10	33	526.6 529.6	391.3 394.2	26.5 26.0	0.74 0.74					
27X10X114 40.00 FT	N 020449	59,972	19	13	65	33	14	22	8	2	13		9	35	586.4 580.6	411.9 415.8	23.0 23.5	0.70 0.72						
SUB TOTAL		73																						
TOTAL		3,369 1,895,621																						

(Note) (1) Ceq: (CE=C+Mn/6+C/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

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