

# MILL TEST CERTIFICATE

Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201207CF02
Commodity	H-BEAM
Specification	ASTM A36/A572 G50/A992/ CSA350W

<b>HYUNDAI STEEL</b>	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20120901288 - 16
Class Cert. No.	
Date of Issue	2012-09-11

Dimensions & Length	Heat No.	Pieces Weights (kg)	Chemical Composition (%)											Tensile Test			Yield Ratio	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>		AVG	1	2	3		
			×100		×1000		×100		×1000			×100	N/mm <sup>2</sup>		%	( )		°C					
24X7X55 40.00 FT	E 161539	4 3,992	18	15	71	29	10	25 9	1 10		4	15	12	34	545.2	435.4	24.0	0.80					
24X7X55 40.00 FT	E 161540	7 6,986	18	19	64	27	9	24 8	2 9		4	14	13	33	538.4	412.9	25.0	0.77					
24X7X55 40.00 FT	E 161541	4 3,992	16	15	60	28	14	29 11	2 10		6	14	13	31	526.6	399.1	25.0	0.76					
24X7X55 40.00 FT	E 161542	17 16,966	19	14	60	29	12	34 9	2 10		4	15	13	34	529.6	402.1	25.5	0.76					
24X7X55 40.00 FT	E 161543	8 7,984	18	14	60	26	7	31 12	3 9		3	11	11	33	541.3	421.7	24.5	0.78					
24X7X55 40.00 FT	E 161544	3 2,994	19	16	64	23	6	27 17	4 12		6	12	12	36	548.2	427.6	25.0	0.78					
24X7X55 40.00 FT	E 161545	9 8,982	18	14	60	28	7	30 12	3 9		3	12	11	33	545.2	425.6	24.5	0.78					
24X7X55 40.00 FT	E 161546	6 5,988	19	14	60	30	10	27 12	3 14		4	15	13	35	544.3	416.8	24.0	0.77					
24X7X55 40.00 FT	E 161547	5 4,990	18	13	59	34	12	26 12	3 17		4	13	14	34	539.4	405.0	25.5	0.75					
SUB TOTAL		63 62,874																					

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/50+Mo/5+Ni/15+Cu/15) (2) Gauge length : 200 mm (3) Yield Ratio = YP/TS

<b>K. S. Shim</b>	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
General Manager of Q.A Team	