

MILL TEST CERTIFICATE

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

H HYUNDAI STEEL	
Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20120901288 - 2
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 ⁽¹⁾	Tensile Strength	Yield point	Elongation ⁽²⁾		AVG	1	2	3		
			×100		×1000		×100		×1000			×100	N/mm ²		%	()		C					
12X4X14 40.00 FT	D 109725	91 23,114	19	18	63	30	20	32 9	2 19		3	20	13	36	516.8 519.8	403.1 407.0	25.0 25.0	0.78 0.78					
12X4X14 40.00 FT	D 109746	132 33,528	18	17	61	30	11	21 11	2 13		2	18	15	33	543.3 541.3	417.8 413.8	24.0 25.0	0.77 0.76					
12X4X16 40.00 FT	D 109345	3 870	18	14	62	30	13	24 9	2 13		4	14	18	34	540.3 544.3	401.1 404.0	24.5 24.0	0.74 0.74					
12X4X16 40.00 FT	D 109746	17 4,930	18	17	61	30	11	21 11	2 13		2	18	15	33	539.4 535.4	413.8 411.9	24.0 24.5	0.77 0.77					
12X4X16 40.00 FT	D 109747	276 80,040	18	16	59	25	14	24 10	3 12		2	15	12	33	526.6 529.6	402.1 404.0	25.0 25.5	0.76 0.76					
12X4X19 40.00 FT	D 109723	80 27,600	18	19	63	32	14	27 10	2 16		4	19	19	35	537.4 535.4	411.9 408.0	24.0 25.0	0.77 0.76					
12X4X19 40.00 FT	D 109724	40 13,800	16	17	61	29	15	29 9	2 14		3	17	14	32	526.6 530.5	401.1 402.1	25.0 25.0	0.76 0.76					
12X4X22 40.00 FT	D 109346	10 3,990	20	18	65	28	15	26 9	2 14		4	15	20	36	545.2 541.3	411.9 408.0	24.0 24.5	0.76 0.75					
12X4X22 40.00 FT	D 109743	90 35,910	19	20	59	25	12	28 10	2 13		3	18	13	34	524.7 522.7	380.5 382.5	26.5 26.3	0.72 0.73					
SUB TOTAL		739 223,782																					

(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

<p style="font-size: 2em; font-family: cursive;">K. S. Shim</p> <p>General Manager of Q.A Team</p>	<p>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</p>
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