

MILL TEST CERTIFICATE



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

Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20120901288 - 1
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	
			x100			x1000		x100		x1000			x100	N/mm ²		%		(^o)	C			
6X4X8.5 40.00 FT	D 108849	11 1,694	18	15	60	25	13	23 9	1 11	5	16	13	33	541.3 538.4	420.7 416.8	23.5 24.0	0.78 0.77					
6X4X8.5 40.00 FT	D 108850	12 1,848	17	17	60	27	10	21 11	2 14	3	16	11	32	528.6 524.7	407.0 403.1	24.0 24.5	0.77 0.77					
6X4X8.5 40.00 FT	D 109759	376 57,904	18	14	60	27	20	25 13	3 18	2	14	12	35	548.2 545.2	431.5 427.6	24.0 25.5	0.79 0.78					
6X4X8.5 40.00 FT	D 109760	816 125,664	17	16	62	27	15	23 11	3 16	2	16	12	33	548.2 543.3	432.5 427.6	25.0 25.5	0.79 0.79					
6X4X12 40.00 FT	D 109758	192 41,856	18	19	62	26	21	24 9	3 12	4	15	10	34	546.2 541.3	399.1 394.2	25.0 25.5	0.73 0.73					
6X4X12 40.00 FT	D 109759	48 10,464	18	14	60	27	20	25 13	3 18	2	14	12	35	547.2 545.2	394.2 392.3	26.0 25.5	0.72 0.72					
10X5-3/4X22 40.00 FT	D 109658	144 57,456	18	16	68	33	28	32 13	4 16	3	18	14	36	546.2 544.3	418.7 414.8	26.0 25.0	0.77 0.76					
10X5-3/4X22 40.00 FT	D 109659	72 28,728	18	20	64	34	20	26 12	4 20	3	16	12	36	541.3 539.4	421.7 416.8	26.0 25.5	0.78 0.77					
12X4X14 40.00 FT	D 109344	29 7,366	22	14	64	32	12	26 10	2 18	3	16	14	39	537.4 532.5	394.2 392.3	25.0 25.5	0.73 0.74					
SUB TOTAL		1,700 332,980																				

(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

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