

MILL TEST CERTIFICATE



Contract No.	
Customer	DUFERCO
L/C No.	
P/O No.	32201308C100
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/ CSA 350W

Head Office	1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20131001430 - 1
Class Cert. No.	
Date of Issue	2013-10-10

Dimensions & Length	Heat No.	Pieces	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 ⁽¹⁾	Tensile Strength	Yield point	Elongation ⁽²⁾	Yield Ratio	AVG	1	2		3
				x100	x100	x100	x10000	x10000	x100	x100	x100	x10000	x10000	x100	N/mm ²	N/mm ²	%	(%)	C				
18X11X97 40.00 FT	E 169890	3	5,280	17	15	69	0.02	0.11	32	2	0.03	0.05	0.13	0.37	541.3	409.3	26.0	0.76					
18X11X97 40.00 FT	E 169891	24	42,240	18	15	73	0.03	0.15	28	2	0.03	0.07	0.22	0.36	515.6	377.6	26.5	0.73					
18X11X97 40.00 FT	E 169892	9	15,840	17	18	75	0.03	0.11	25	2	0.03	0.10	0.32	0.52	522.7	393.2	26.0	0.75					
TOTAL		36	63,360																				

(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

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