


Contract No.	
Customer	DUFERCO
PO No.	32201611C611
L/C No.	
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/CSA G40.21-13 50MM(345MM)

MILL TEST CERTIFICATE
EN 10204(2004) TYPE 3.1

		Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
		Certificate No.	IH20170103427-1
Class certificate No.			
Issue date		2017-01-17	



Dimensions	Length	Heat No.	Quantity (PCS)	Weight (kg)	Chemical Composition															Tensile Test			Yield Ratio			BEND TEST			Impact Test(I)			Remarks (Impact Specimen Size)
					C					SI					P					Tensile Strength	Yield Strength	Elongation (%)	Ratio ^(a)	TEST	V-Notch	1	2	3				
					×100	×100	×1000	×1000	×1000	×100	×100	×1000	×1000	×100	×100	×100	×100	×100	×100													
10X4X12	40.00 FT	D 138253	140	30,520	17	17	59	28	5	25	8	2	16	5	2	16	12	33	526	428	22.5	0.81										
10X4X12	40.00 FT	D 138254	260	56,680	19	16	58	26	4	27	10	3	13	4	2	18	13	34	546	437	21.0	0.80										
12X4X14	40.00 FT	D 138013	80	20,320	17	17	60	26	8	29	10	2	18	4	2	16	12	34	541	434	23.0	0.80										
12X4X16	40.00 FT	D 138020	20	5,800	17	17	58	25	7	26	10	3	16	3	3	16	13	33	538	432	23.5	0.80										
12X4X16	40.00 FT	D 138021	100	29,000	20	13	60	25	4	30	10	3	20	3	3	14	14	37	566	436	23.0	0.77										
12X4X16	40.00 FT	D 138022	90	26,100	18	15	61	27	5	27	9	2	23	3	3	16	12	36	534	431	23.5	0.81										
12X4X22	40.00 FT	D 138009	20	7,980	18	15	58	22	6	30	10	2	9	2	1	13	15	33	537	435	24.5	0.81										
12X4X22	40.00 FT	D 138010	90	35,910	16	14	58	21	7	34	10	2	9	3	2	16	12	31	538	413	24.5	0.77										
14X5X22	40.00 FT	D 138299	125	49,875	16	18	60	29	4	33	10	2	21	4	4	19	15	34	542	410	23.0	0.76										
14X5X22	40.00 FT	D 138300	25	9,975	18	15	60	30	5	26	8	1	18	3	3	16	11	34	534	405	23.5	0.76										
SUB TOTAL			950	272,160															521	386	23.5	0.74										
																			537	404	23.0	0.75										

===== N E X T =====

(1) Ceq: (C+Mn/6+Cr/5+V/5+Mo/5+Ni/15+Cu/15)
 (2) Gauge length : 200 mm
 (3) Y.R = Y.S/15

Note


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.

J.C. Ahn

General Manager of QA Team

Contract No.	
Customer	DUFERCO
PO No.	32201611C611
L/C No.	
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/CSA G40.21-13 50WM(345MM)

MILL TEST CERTIFICATE
EN 10204(2004) TYPE 3.1


		Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
		Certificate No.	IH20170103427-2
Class certificate No.			
Issue date		2017-01-17	
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Dimensions	Length	Heat No.	Quantity (PCS)	Weight (kg)	Chemical Composition														Tensile Test			Yield Ratio			BEND TEST			Impact Test(I)			Remarks (Impact Specimen Size)
					C	Si	Mn	P	S	Cu	Ni	Mo	Cr	Al	V	Nb	Sn	Ce _{tr}	Tensile Strength	Yield Strength	Elongation (%)	Ratio	TEST	AVG	1	2	3				
					x100														N/mm ²	N/mm ²	%	%									
14X5X22	4000 FT	D 138301	160	63,840	16	17	59	34	6	29	9	2	22	3	4	20	11	33	534	397	23.0	0.74									
14X5X22	4000 FT	D 138302	20	7,980	16	17	58	27	4	25	9	2	16	3	2	16	11	32	540	392	23.5	0.73									
TOTAL			1,130	343,980																											

===== E N D =====

Note
 (1) Ceq: (CE=C+Mn/6+Cr/5+V/5+Mo/5+Ni/15+Cu/15)
 (2) Gauge length : 200 mm
 (3) Y.R = Y.S/T.S

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