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

INSPECTION CERTIFICATE

EN 10204(2004) TYPE 3.1

HYUNDAI STEEL

Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
Certificate No.	IH20161203231-1
Class certificate No.	
Issue date	2016-12-19

Dimensions	Length	Heat No.	Quantity (PCS)	Weight (kg)	Chemical Composition C	Si	Mn	P	S	Cu	Ni	Mo	Cr	Al	V	Nb	Sn	CE(1)				Tensile Test: Tensile Strength	Yield Strength	Elongation (2)	Yield Ratio(3)	BEND TEST	Impact Test(L) V-Notch AVG	1	2	3 ℃	Remarks (Impact Specimen Size)
					×100			×1000		×100				×1000				×100				N/mm2		%	-	-	-				
8X4X10	40.00 FT	D 137674	72	13,032	15	15	65	25	3	28	9	2	13	3	2	14	20	31				548 545	420 417	25.5 26.5	0.77 0.77						
8X4X10	40.00 FT	D 137695	24	4,344	17	17	61	26	4	28	9	2	13	3	2	14	13	33				556 559	421 424	26.5 25.5	0.76 0.76						
8X4X10	40.00 FT	D 137696	24	4,344	15	16	65	31	5	29	10	2	18	3	3	18	15	32				551 555	428 435	27.0 26.0	0.78 0.78						
14X8X43	40.00 FT	E 193898	36	28,080	18	16	64	24	10	25	8	1	13	2	15	2	10	34				527 521	403 394	27.5 27.0	0.76 0.76						
14X8X43	40.00 FT	E 193899	20	15,600	18	17	65	21	8	25	8	1	10	3	13	1	13	33				514 517	380 384	27.0 27.5	0.74 0.74						
14X8X53	40.00 FT	E 193881	13	12,493	18	15	96	27	13	30	9	2	13	2	13	3	11	40				557 554	394 391	27.0 26.5	0.71 0.71						
14X8X53	40.00 FT	E 193882	14	13,454	18	18	96	24	10	25	8	1	10	3	15	3	10	39				545 541	388 382	26.5 26.0	0.71 0.71						
14X8X53	40.00 FT	E 193883	1	961	18	16	97	27	13	25	8	1	12	2	15	3	11	39				542 536	392 390	26.0 26.5	0.72 0.73						
14X8X53	40.00 FT	E 193885	20	19,220	19	17	97	24	5	23	8	1	12	4	14	2	11	40				557 554	394 387	25.0 25.5	0.71 0.70						
14X8X53	40.00 FT	E 193886	8	7,688	18	14	97	24	7	32	9	1	11	3	14	2	10	40				555 551	391 385	25.5 26.0	0.70 0.70						
SUB TOTAL			**232**	**119,216**																											

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

(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

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 Q.A Team

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

INSPECTION CERTIFICATE

EN 10204(2004) TYPE 3.1

HYUNDAI STEEL

Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
Certificate No.	IH20161203231-2
Class certificate No.	
Issue date	2016-12-19

Dimensions	Length	Heat No.	Quantity (PCS)	Weight (kg)	Chemical Composition																		Tensile Test			Yield Ratio(3)	BEND TEST	Impact Test(L)				Remarks (Impact Specimen Size)
					C	Si	Mn	P	S	Cu	Ni	Mo	Cr	Al	V	Nb	Sn	CE(1)					Tensile Strength	Yield Strength	Elongation (2)			V-Notch			℃	
																												AVG	1	2	3	
						×100		×1000			×100				×1000			×100					N/mm2		%	-	-	-				
24X7X55	40.00 FT	E 193506	2	1,996	15	15	53	20	7	25	8	2	13	4	12	2	15	29					476 471	378 371	26.5 27.0	0.80 0.79						
24X7X55	40.00 FT	E 194419	2	1,996	13	15	55	19	12	31	10	2	14	4	12	1	13	28					496 490	399 397	26.0 26.5	0.80 0.81						
24X7X55	40.00 FT	E 194421	3	2,994	13	14	53	24	9	30	9	2	14	3	13	1	12	28					485 479	375 368	26.0 26.5	0.77 0.77						
24X7X55	40.00 FT	E 194422	17	16,966	13	14	51	25	8	29	9	2	15	3	12	1	11	28					495 487	393 385	24.5 24.5	0.79 0.79						
24X7X55	40.00 FT	E 194425	10	9,980	14	18	55	19	6	27	8	2	16	5	11	1	11	29					508 504	395 388	25.0 25.5	0.78 0.77						
24X7X55	40.00 FT	E 194426	10	9,980	14	17	51	22	6	31	9	2	17	4	13	1	13	29					502 495	384 375	26.0 27.0	0.76 0.76						
24X7X55	40.00 FT	E 194432	1	998	14	15	53	24	10	27	8	2	17	4	13	1	14	29					495 498	390 392	26.5 26.0	0.79 0.79						
TOTAL			**277**	**164,126**	====== E N D ======																											

(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

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 Q.A Team