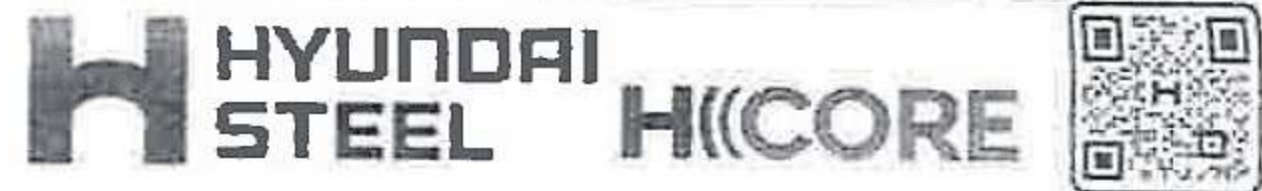


ORIGINAL



**INSPECTION CERTIFICATE**  
EN 10204(2004) TYPE 3.1

Contract No.	
Customer	DUFERCO
PO No.	32201910C221
L/C No.	
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/CSA G40.21-13 50MM(345MM)

Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
Certificate No.	IH20191106159-4
Class certificate No.	
Issue date	2019-12-04

Dimensions	Length	Heat No.	Quantity (PCS)	Weight (kg)	Chemical Composition															Tensile Test			Yield Ratio(%)	BEND TEST	Impact Test(L)				Remarks (Impact Specimen Size)
					C	Si	Mn	P	S	Cu	Ni	Mo	Cr	Al	V	Nb	Sn	CE <sub>eq</sub>	Tensile Strength	Yield Strength	Elongation (%)	V-Notch			°C				
					×100			×1000			×100			×1000			×100	N/mm <sup>2</sup>			AVG	1			2	3			
24X12-3/4X117	40.00 FT	N 050730	4	8,492	17	15	95	24	10	25	9	2	27	1	12	1	8	41	565	399	24.5	0.707							
24X12-3/4X117	40.00 FT	N 050731	3	6,369	18	15	92	32	7	24	11	2	24	2	17	1	9	41	559	417	27.5	0.746							
24X12-3/4X117	40.00 FT	N 050732	13	27,599	18	14	92	24	6	24	10	2	17	3	14	1	12	40	566	389	25.5	0.688							
24X12-3/4X131	40.00 FT	N 050724	18	42,768	18	15	95	20	6	22	8	2	18	2	14	1	14	40	571	401	25.0	0.703							
24X12-3/4X131	40.00 FT	N 050725	21	49,896	18	16	95	20	6	26	9	2	12	3	13	1	11	39	568	392	27.0	0.691							
24X12-3/4X146	40.00 FT	N 050713	3	7,947	18	15	112	24	6	26	10	2	13	2	13	1	11	42	567	396	25.5	0.699							
24X12-3/4X146	40.00 FT	N 050714	10	26,490	17	16	112	23	10	27	10	2	15	2	14	1	17	42	564	390	26.5	0.692							
24X12-3/4X146	40.00 FT	N 050715	3	7,947	18	19	112	23	8	26	10	2	11	2	14	1	11	42	572	397	26.0	0.695							
24X12-3/4X146	40.00 FT	N 050715	3	7,947	18	19	112	23	8	26	10	2	11	2	14	1	11	42	568	405	25.0	0.714							
24X12-3/4X162	40.00 FT	N 050269	1	2,939	18	14	112	23	11	24	12	3	17	2	13	1	12	43	575	403	25.0	0.701							
24X12-3/4X162	40.00 FT	N 050272	1	2,939	16	16	114	24	11	25	9	3	19	2	15	1	11	42	568	392	25.5	0.691							
<b>SUB TOTAL</b>			<b>77</b>	<b>183,386</b>															564	382	25.5	0.678							
																			567	380	25.0	0.671							

===== NEXT =====

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.

*J. K. Han*

General Manager of QA Team