

Contract No.	Z230506417
Customer	HYUNDAI CORPORATION
PO No.	F230500317
L/C No.	
Commodity	H-BEAM
Specification	ASTM A572 G50/A992/CSA G4021-13 50WM(345WM)



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INSPECTION CERTIFICATE

EN 10204(2004) TYPE 3.1

Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
Certificate No.	IH20230700207-1
Class certificate No.	
Issue date	2023-08-03

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	N	CE(1)	Tensile Strength	Yield Strength	Elongation (2)			V-Notch			°C							
					x100		x1000		x100			x1000		x10000	x100	N/mm2		%	-	-	AVG			1	2	3								
8X4X13	12.00 M	D 177897	12	2,784	15	17	62	27	6	26	10	2	19	4	2	16	103	32				543	421	24.5	0.776									
8X6-1/2X24	12.00 M	D 178453	48	20,592	17	14	61	29	5	28	9	2	22	2	1	14	91	34				550	414	23.2	0.753									
8X8X31	12.00 M	D 176888	1	553	15	15	60	25	6	21	9	2	16	4	2	17	113	31				527	405	26.8	0.769									
8X8X31	12.00 M	D 177660	33	18,249	16	16	60	18	5	22	8	1	15	3	1	16	79	31				502	370	29.0	0.738									
8X8X31	12.00 M	D 178220	6	3,318	17	16	64	26	8	25	9	2	20	4	3	17	110	34				556	389	25.1	0.700									
8X8X31	12.00 M	D 178221	24	13,272	18	16	61	22	5	26	9	2	17	4	2	16	125	34				556	383	24.0	0.689									
10X4X15	12.00 M	D 177312	8	2,144	10	13	86	27	7	27	10	1	20	3	1	16	145	31				515	436	24.2	0.847									
10X4X15	12.00 M	D 178283	126	33,768	18	14	60	33	4	23	9	2	21	5	2	15	108	35				548	446	23.2	0.814									
10X5-3/4X22	12.00 M	D 178229	88	34,584	18	16	60	22	7	26	8	2	13	3	1	16	122	33				539	412	25.0	0.765									
10X5-3/4X22	12.00 M	D 178230	134	52,662	16	15	62	30	5	26	9	1	20	3	2	16	94	33				538	414	24.2	0.770									
SUB TOTAL			480	181,926																														

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

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

Note
 Melted and Poured in Republic of Korea

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

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INSPECTION CERTIFICATE

EN 10204(2004) TYPE 3.1

Factory	63, Jungbong-Daero, Dong-gu, Incheon, S. Korea
Certificate No.	IH20230700207-2
Class certificate No.	
Issue date	2023-08-03

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	N	CE(1)	Tensile Strength	Yield Strength	Elongation (2)			V-Notch			°C						
					x100		x1000		x100			x1000		x10000	x100	N/mm2			%	-	-			AVG	1	2	3						
10X5-3/4X26	12.00 M	D 178226	61	28,304	17	14	61	18	8	24	9	2	16	3	2	15	118	33					548 548	407 404	23.3 23.2	0.743 0.738							
10X5-3/4X30	12.00 M	D 177604	8	4,288	16	14	60	25	6	26	10	3	17	2	1	14	74	32					538 538	387 388	22.8 22.3	0.720 0.722							
10X5-3/4X30	12.00 M	D 178235	25	13,400	17	16	60	27	4	23	9	2	22	3	1	16	107	34					551 542	406 402	23.8 23.9	0.737 0.742							
10X5-3/4X30	12.00 M	D 178236	8	4,288	16	16	60	22	5	27	14	3	15	3	1	15	107	32					538 541	407 398	23.1 24.1	0.757 0.736							
12X6-1/2X26	12.00 M	D 178095	2	928	15	16	60	24	5	24	10	2	21	4	1	15	93	32					548 544	420 411	24.3 24.9	0.767 0.756							
14X6-3/4X38	12.00 M	D 178224	79	53,641	16	15	62	18	10	24	9	2	19	3	2	15	105	33					525 523	372 377	25.5 25.1	0.709 0.721							
14X6-3/4X38	12.00 M	D 178225	16	10,864	17	14	59	20	9	29	10	2	15	3	2	15	113	33					532 529	372 370	26.3 25.2	0.700 0.700							
16X5-1/2X26	12.00 M	D 178111	114	52,896	16	15	62	29	4	25	10	2	24	4	2	16	107	34					548 550	410 428	22.0 21.4	0.749 0.779							
TOTAL			793	350,535															===== E N D =====														

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

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