

L/C No.	DPCMXH500702	EN 10204(2004) TYPE 3.1	Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
P/O No.	32201503C211		Certificate No.	IH20150305389 - 15
Commodity	HOT ROLLED WIDE FLANGE BEAMS		Class Cert. No.	
Specification	ASTM A572 G50/A992/CSA 350W		Date of issue	2015-03-30

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	
			x100	x1000	x100	x1000	x100	x1000	x1000	x1000	x100	N/mm ²			%	()	C				
16X10-1/4X67 40.00 FT	E 180192	23 27,968	16	17	99	27	10	28	2	9	3	14	41	597	439	22.5	0.74				
16X10-1/4X67 40.00 FT	E 180193	18 21,888	20	17	95	28	8	32	2	6	4	12	44	597	437	22.5	0.73				
16X10-1/4X67 40.00 FT	E 180194	10 12,160	20	14	101	30	11	32	1	4			49	595	417	23.0	0.72				
16X10-1/4X77 40.00 FT	E 180207	1	18	15	97	14	10	27	2	4	3	10	40	551	399	23.5	0.72				
16X10-1/4X77 40.00 FT	E 180214	17 23,749	18	17	95	22	11	26	2	9	4	14	41	547	390	24.0	0.70				
16X10-1/4X77 40.00 FT	E 180215	19 26,543	19	14	94	22	10	26	2	4	4	13	40	546	381	24.0	0.72				
16X10-1/4X77 40.00 FT	E 180216	17 23,749	18	13	95	26	11	25	2	4	5	16	40	549	382	23.5	0.71				
16X10-1/4X77 40.00 FT	E 180217	5	18	14	100	21	13	28	2	4	4	13	41	553	382	23.0	0.71				
16X10-1/4X77 40.00 FT	E 180218	3 4,191	18	15	99	25	14	30	2	4	3	13	41	550	393	24.0	0.72				
SUB TOTAL		112 147,233																			

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+Ni/5+Mo/5+Cu/15) (2) Gauge length : 200 mm (3) Yield Ratio = YP/TS

HMS 1102(A)-3a QMS App 2013039 A4(210x297)

Contract No.		MILL TEST CERTIFICATE		
Customer	GERDAU CORSA SAPI DE CV		Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
L/C No.	DPCMXH500702		Certificate No.	IH20150305389 - 16
P/O No.	32201503C211		Class Cert. No.	

L/C No.	DPCMXH500702	EN 10204(2004) TYPE 3.1	Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
P/O No.	32201503C211		Certificate No.	IH20150305389 - 16
Commodity	HOT ROLLED WIDE FLANGE BEAMS		Class Cert. No.	
Specification	ASTM A572 G50/A992/CSA 350W		Date of issue	2015-03-30

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	
			x100	x1000	x100	x1000	x100	x1000	x1000	x1000	x100	N/mm ²			%	()	C				
16X10-1/4X77 40.00 FT	E 180219	6 8,382	19	16	97	31	7	28	2	8	4	14	42	562	402	23.0	0.72				
16X10-1/4X77 40.00 FT	E 180220	1 1,397	19	15	98	27	11	25	2	9	4	11	43	567	407	22.5	0.72				
16X10-1/4X89 40.00 FT	E 180222	12 19,368	18	14	95	17	10	25	2	4	4	11	40	590	396	24.5	0.72				
16X10-1/4X89 40.00 FT	E 180223	24 38,736	18	17	96	21	6	28	2	3	4	14	40	559	402	24.5	0.72				
16X11X76 40.00 FT	N 027370	13 17,927	19	16	96	26	8	28	2	3		15	41	572	424	24.0	0.74				
16X11X76 40.00 FT	N 027371	63 86,877	20	16	99	26	8	10	17	15		9	43	560	407	24.0	0.73				
16X11X76 40.00 FT	N 027372	49 67,571	20	18	97	30	10	29	2	4	7	6	42	564	410	23.5	0.73				
16X11X76 40.00 FT	N 027373	42 57,918	19	16	99	20	10	28	2	3	4	12	41	559	413	24.0	0.74				
16X11X76 40.00 FT	N 027389	7 9,653	20	17	98	22	13	30	2	4	2	17	43	562	418	25.0	0.74				
SUB TOTAL		211 307,829																			

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+Ni/5+Mo/5+Cu/15) (2) Gauge length : 200 mm (3) Yield Ratio = YP/TS

HMS 1102(A)-3a QMS App 2013039 A4(210x297)

Contract No.		MILL TEST CERTIFICATE		
Customer	GERDAU CORSA SAPI DE CV		Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
L/C No.	DPCMXH500702		Certificate No.	IH20150305389 - 17
P/O No.	32201503C211		Class Cert. No.	

L/C No.	DPCMXH500702	EN 10204(2004) TYPE 3.1	Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
P/O No.	32201503C211		Certificate No.	IH20150305389 - 17
Commodity	HOT ROLLED WIDE FLANGE BEAMS		Class Cert. No.	
Specification	ASTM A572 G50/A992/CSA 350W		Date of issue	2015-03-30

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	
			x100	x1000	x100	x1000	x100	x1000	x1000	x1000	x100	N/mm ²			%	()	C				
16X11X76 40.00 FT	N 027380	50 68,950	19	16	99	27	12	34	2	4	2	16	42	566	415	25.0	0.73				
16X11X76		21																			

40.00 FT	N 027391	28,959	19	16	98	26	11	8	14	15	3	15	41	549	400	25.0	0.73
18X11X76 40.00 FT	N 027392	6,889	18	19	97	20	8	20	2	7	3	22	39	557	410	24.0	0.74
18X11X76 40.00 FT	N 027393	70,329	19	21	100	23	11	35	1	5	4	15	42	552	405	25.5	0.73
18X11X76 40.00 FT	N 027394	81,351	19	15	98	24	11	31	2	4	4	15	42	569	411	24.5	0.72
18X11X76 40.00 FT	N 027395	77,224	19	15	102	26	11	29	1	4	3	13	42	570	405	25.0	0.71
18X11X76 40.00 FT	N 027396	63,434	19	15	97	31	11	26	2	5	3	19	41	581	402	25.0	0.72
18X11X86 40.00 FT	N 027381	29,659	19	20	100	16	12	22	2	5	2	15	40	565	412	25.0	0.73
18X11X86 40.00 FT	N 027382	57,757	18	15	99	23	12	27	2	5	2	12	39	540	394	25.0	0.73
SUB TOTAL		484,568															

(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

J. C. Ahn
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

HMS 1102(A)-3a * QRF * Creel App 2013039 A4(210x297)

Contract No.	
Customer	GERDAU CORSA SAPI DE CV
L/C No.	DPCMXH500702
P/O No.	32201503C211
Commodity	HOT ROLLED WIDE FLANGE BEAMS
Specification	ASTM A572 G50/A992/CSA 350W

MILL TEST CERTIFICATE

EN 10204(2004) TYPE 3.1

HYUNDAI STEEL	
Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20150305389 - 19
Class Cert. No.	
Date of issue	2015-03-30

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	
			x100	x100	x1000	x1000	x100	x1000	x1000	x1000	x1000	x1000	x1000	N/mm ²	%	%	(%)	C			
18X11X86 40.00 FT	N 027383	60,879	18	14	98	26	8	30	2	6	2	17	40	562	405	24.0	0.72				
18X11X86 40.00 FT	N 027384	51,513	18	18	97	27	10	35	2	5	2	17	40	563	407	23.5	0.72				
18X11X86 40.00 FT	N 027385	56,196	19	16	99	26	11	28	2	17	2	23	41	561	410	24.0	0.72				
18X11X86 40.00 FT	N 027386	51,513	18	15	97	28	10	30	2	6	2	19	41	555	400	24.0	0.72				
18X11X86 40.00 FT	N 027387	6,244	19	14	98	27	9	31	2	5	2	19	42	562	414	24.0	0.74				
18X11X86 40.00 FT	N 027388	12,488	20	15	99	27	12	31	2	7	3	16	43	570	430	23.5	0.76				
18X11X86 40.00 FT	N 027389	24,976	20	17	99	22	13	30	2	4	2	17	43	574	433	23.0	0.76				
18X11X97 40.00 FT	N 027357	10,560	8	18	98	24	7	26	3	3	3	13	41	541	422	24.0	0.78				
18X11X97 40.00 FT	N 027359	15,840	19	20	96	24	6	28	2	4	2	10	41	570	418	24.5	0.73				
SUB TOTAL		290,209																			

(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

J. C. Ahn
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

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Contract No.	
Customer	GERDAU CORSA SAPI DE CV
L/C No.	DPCMXH500702
P/O No.	32201503C211
Commodity	HOT ROLLED WIDE FLANGE BEAMS
Specification	ASTM A572 G50/A992/CSA 350W

MILL TEST CERTIFICATE

EN 10204(2004) TYPE 3.1

HYUNDAI STEEL	
Head Office	63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea
Certificate No.	IH20150305389 - 19
Class Cert. No.	
Date of issue	2015-03-30

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	
			x100	x100	x1000	x1000	x100	x1000	x1000	x1000	x1000	x1000	N/mm ²	%	%	(%)	C				
18X11X97 40.00 FT	N 027369	14,080	8	18	14	98	21	7	25	2	3	11	12	40	540	402	25.0	0.74			
18X11X97 40.00 FT	N 027370	22,880	13	19	16	96	26	8	28	2	3	15	41	559	405	24.5	0.73				
18X11X106 40.00 FT	N 027356	1,823	1	18	20	101	22	8	30	2	2	21	41	554	382	25.5	0.69				
18X11X106 40.00 FT	N 027359	34,614	18	19	20	96	24	8	26	2	4	2	10	41	570	408	24.5	0.72			
18X11X106 40.00 FT	N 027368	30,788	16	18	97	24	10	26	2	3	2	14	40	562	405	24.0	0.72				
18X11X119 40.00 FT	N 026826	10,795	5	19	15	101	26	11	25	1	4	5	12	42	594	408	21.0	0.68			
18X11X119 40.00 FT	N 026827	15,113	7	20	16	104	27	10	25	1	4	5	12	43	591	418	26.0	0.70			
18X11X130 40.00 FT	N 027802	14,154	6	18	16	114	22	10	17	1	2	1	7	42	571	392	24.5	0.69			
18X11X158 40.00 FT	N 027358	8,588	3	19	21	114	33	7	29	2	3	3	8	45	568	405	24.0	0.73			
SUB TOTAL		152,925																			

(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