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COMMODITY(제품명) : E.F.W. CARBON STEEL PIPE
SPECIFICATION(제품규격) : ASTM A53 B

검사증명서
MILL TEST CERTIFICATE
EN 10204 TYPE 3.1 - 2004

CUSTOMER(고객사): 현대종합상사(주)

HYUNDAI STEEL
울산공장 : 울산광역시 북구 염포로 706
706, Yeompo-ro, Buk-gu, Ulsan, Korea

No.	TYPE OF PIPE END ※1	SIZE OUT-DIA×THICK×LENGTH (외경×두께×길이)	PCS (본)	WEIGHT (KG)	TOTAL LENGTH (M)	HEAT No.	Hydrostatic Test Pressure PSI	Hydrostatic Test Time SEC	Spec.	※2	Tensile Properties(Gage Length : 2 inch) Tensile Strength Base MPa	Tensile Strength Weld MPa	Yield Strength MPa	Y/R Rate %	EL %	Hardness Test ※3	Hardness Test Max. Value	Hardness Test & CVN Impact Test ※2 ※3	CVN Impact Test(℃) Absorbed Energy(Joule)	Shear Area (%)	D.W.T Test(℃) Shear Area(%)
									Min.		415	415	240					Specimen size	Criteria : In the case of 10×10		
1	EB BE	16" X 0.250 " X 6,150 M	30	11,557	184.5	P58303	660	5		T	542	496	437		35						
2	EB BE	16" X 0.250 " X 6,150 M	203	78,203	1,248.45	SQ62887	660	5		T	480	459	297		37						
3	EB BE	16" X 0.250 " X 6,150 M	69	26,581	424.35	SQ62901	660	5		T	464	459	301		43						
		TOTAL	302	116,341	1,857.3																

No.	Heat No.	Spec.	※4	Chemical Composition(%) C	Si	Mn ※7	P	S	Cu	N	Cr	Mo	V	CM3 ※10	2:×100 3:×1000 4:×10000	Zn-Coating Test Zn Coating	Copper Sulfate Test Time	Copper Sulfate Test Result	HIC-Test Colapse Pressure psi	H.I.C Test CLR %	CTR %	CSR %	S.S.C.C Test
				2	2	2	3	3	2	2	2	3	3	3									
		Min.																					
		Max.		30		120	50	45	40	40	40	150	80	1000									
1	P58303		H	6	17	104	12	2															
			P	6	13	101	7	2	7	2	3	1	1	120									
			P	7	13	101	7	2	7	2	3	2	2	124									
2	SQ62887		H	17	1	47	9	3															
			P	18	1	47	9	2	1	1	2	2	1	40									
			P	18	1	47	9	3	1	1	2	2	1	41									
3	SQ62901		H	17	1	50	11	3															
			P	18	1	50	11	3	3	1	3	4	1	86									
			P	18	1	50	10	3	2	1	3	4	1	86									

Remark
※1) Type of pipe end(관종)
EB:ERW Black BE:Bevel End
※2) L: Longitudinal, T: Transverse
※3) B: Base, W: Weld Line, H: Heat Affected Zone
※4) H: Heat(Ladle) Analysis, P: Product Analysis
※7) For each reduction of 0.01% below the specified C max.
an increase of 0.06% Mn above the specified max.
will be permitted up to a max. of 1.65%
※10) CM3=Cu+Ni+Cr+Mo+V
※ SPEC YEAR - ASTM A53(2012ED)

Heat Treatment	Non-Destructive Test (U.T)	Flattening / Bending Test	Visual & Dimension
GOOD	GOOD	GOOD	GOOD

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WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPTED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER.
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SURVEYOR

T. h. Lim
QA Manager

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