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

검사증명서
MILL TEST CERTIFICATE
EN 10204 TYPE 3.1 - 2004

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

CUSTOMER(고객사): 현대종합상사(주)

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. Min. / Max.	※2	Tensile Strength Base MPa	Tensile Strength Weld MPa	Yield Strength MPa	Y/R Rate %	E.L %	Hardness Test ※3	Hardness Test Max. Value	Hardness Test & CVN Impact Test ※2 ※3	Specimen size	CVN Impact Test(℃) Absorbed Energy(Joule) 1	2	3	avg	Shear Area (%)	D.W.T Test(℃) Shear Area(%) 1	2	avg
									Min.		415	415	240														
									Max.											Criteria : In the case of 10×10)							
1	EB BE	16" X 0.375 " X 6.150 M	39	22,347	239.85	8751633	980	5		T	439	478	302		44												
2	EB BE	16" X 0.375 " X 6.150 M	18	10,314	110.7	G82710	980	5		T	480	495	318		41												
		TOTAL	57	32,661	350.55																						

No.	Heat No.	Spec.	※4	C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10	2 :×100	3 :×1000	4 :×10000	Zn-Coating Test: Zn Coating	Copper Sulfate Test Time	Copper Sulfate Test Result	HC-Test Collapse 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	8751633		H	15	1	72	18	3																	
			P	15	2	72	14	3	1	1	2	1	1	40											
			P	15	2	72	14	3	1	1	2	1	1	42											
2	G82710		H	17	2	69	14	5																	
			P	16	1	72	15	7	4	1	4	1	2	99											
			P	16	1	72	15	6	4	1	4	2	2	100											

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)

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

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SURVEYOR

T. h. lim
QA Manager

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