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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

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 (%)	E.L (%)	Hardness Test ※3 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.																
							PSI	SEC	Max.		415	415	240		25			Criteria : In the case of 10×10							
1	EB BE	10" X 0.225 " X 6.150 M	234	54,211	1,439.1	SU09235	880	5	T	T	482	479	316		36										
		TOTAL	234	54,211	1,439.1																				

No.	Heat No.	Spec.	※4	Chemical Composition(%) 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	H.I.C Test CLR	CTR	CSR	S.S.C.C Test
		Min.		2	2	2	3	3	2	2	2	3	3	3									
		Max.		30		120	50	45	40	40	40	150	80	1000						%	%	%	
1	SU09235		H	18	1	48	14	3											psi				
			P	18	1	48	11	3	3	1	4	2	1	85									
			P	18	1	49	12	3	4	1	4	2	1	88									

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

SURVEYOR

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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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T. h. Lim
QA Manager

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