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CONTRACT(P/O) NO.(계약번호) : 27377
PR NO.(주문서번호) : F180900121
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.	Spec. Max.	※2	Tensile Strength Base MPa	Tensile Strength Weld MPa	Yield Strength MPa	Y/R Rate %	E.L %	※3	Hardness Test Max. Value	※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
												415	415	240							Criteria : In the case of 10×10)							
1	EB BE	16" X 0.312 " X 6.150 M	79	37,814	485.85	SQ69937	820	5			T	457	464	288		44												
2	EB BE	16" X 0.312 " X 6.150 M	57	27,283	350.55	SU12376	820	5			T	461	477	296		41												
		TOTAL	136	65,097	836.4																							

Chemical Composition(%) 2 :×100 3 :×1000 4 :×10000

No.	Heat No.	Spec.	※4	C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10
				2	2	2	3	3	2	2	2	3	3	3
		Min.												
		Max.		30		120	50	45	40	40	40	150	80	1000
1	SQ69937		H	17	1	44	11	4						
			P	17	TR	45	12	5	2	1	2	2	1	51
			P	17	TR	45	11	5	2	1	2	2	1	51
2	SU12376		H	18	TR	48	10	3						
			P	18	1	47	13	4	2	1	3	2	2	62
			P	18	TR	47	13	4	2	1	3	2	2	62

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

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

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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SURVEYOR

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T. K. Lim
QA Manager

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