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CONTRACT(P/O) NO.(계약번호) : 27377
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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.	Spec. 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
												415	415	240														
												Criteria : In the case of 10×10																
1	EB BE	12" X 0.312 " X 6.150 M	50	18,970	307.5	P84302	1030	5			T	474	513	375		45												
2	EB BE	12" X 0.312 " X 6.150 M	60	22,764	369	P87670	1030	5			T	475	510	369		43												
3	EB BE	12" X 0.312 " X 6.150 M	60	22,764	369	P87964	1030	5			T	476	519	374		43												
		TOTAL	170	64,498	1,045.5																							

No.	Heat No.	Spec.	※4	C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10	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	P84302		H	6	2	74	17	5														
			P	6	3	79	19	5	1	1	2	2	2	41								
			P	6	3	79	19	5	1	1	2	2	2	42								
2	P87670		H	6	1	76	12	5														
			P	7	1	80	13	5	3	1	2	2	2	70								
			P	7	1	80	13	6	3	1	2	2	2	71								
3	P87964		H	6	1	75	12	6														
			P	7	1	79	13	5	3	1	2	2	1	70								
			P	7	1	79	13	5	3	1	2	2	2	70								

2 : × 100 3 : × 1000 4 : × 10000

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. h. lim
QA Manager

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