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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. / Max.	※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	Hardness Test Max. Value	Hardness Test & CVN Impact Test ※2 ※3	CVN Impact Test(℃) Specimen size	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	20" X 0.250 " X 6.150 M	14	6,763	86.1	P81399	520	5		T	479	474	381		38												
2	EB BE	20" X 0.250 " X 6.150 M	2	966	12.3	P88335	520	5		T	555	501	456		37												
3	EB BE	20" X 0.250 " X 6.150 M	2	966	12.3	P88367	520	5		T	556	497	450		43												
		TOTAL	18	8,695	110.7																						

No.	Heat No.	Spec.	※4	C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10	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
				Chemical Composition(%) 2 :×100 3 :×1000 4 :×10000																		
				2	2	2	3	3	2	2	2	3	3	3				psi	%	%	%	
		Min.																				
		Max.		30		120	50	45	40	40	40	150	80	1000								
1	P81399		H	6	1	75	10	7														
			P	7	1	77	10	9	1	1	2	2	1	43								
			P	7	1	77	9	8	1	1	2	2	2	44								
2	P88335		H	6	16	106	8	1														
			P	6	16	106	7	2	2	1	2	1	2	52								
			P	6	16	107	7	2	2	1	2	2	2	53								
3	P88367		H	6	16	104	8	2														
			P	6	16	107	7	2	2	1	2	1	2	52								
			P	6	16	107	7	2	2	1	2	2	2	53								

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

T. h. lim
QA Manager

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