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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 CUT-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	Hardness Test Max. Value	※2 ※3	Hardness Test & CVN Impact Test CVN Impact Test(℃) Absorbed Energy(Joule) Specimen size	1	2	3	avg	Shear Area (%)	D.W.T Test(℃) Shear Area(%) 1	2	avg
									Min.		415	415	240		29												
									Max.										Criteria : In the case of 10×10								
1	EB BE	10" X 0.500 " X 6.150 M	13	6,518	79.95	P61769	1950	5		T	490	538	442		39												
		TOTAL	13	6,518	79.95																						

No.	Heat No.	Spec.		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
			※4	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	P61769		H	7	1	76	10	4															
			P	7	1	82	11	5	2	1	2	2	2	48									
			P	7	1	82	11	5	2	1	2	2	2	49									

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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T. h. Lim
QA Manager

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