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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. Min. / Max.	※2	Tensile Strength Base MPa	Tensile Strength Weld MPa	Yield Strength MPa	Y/R Rate %	E.L %	※3	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
									Min.		415	415	240														
									Max.											Criteria : In the case of 10×10							
1	EB BE	20" X 0.500 " X 6.150 M	24	22,896	147.6	G84178	1050	5		T	467	483	308		48												
2	EB BE	20" X 0.500 " X 6.150 M	9	8,586	55.35	P49288	1050	5		T	476	479	375		45												
		TOTAL	33	31,482	202.95																						

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
				Chemical Composition(%) 2:×100 3:×1000 4:×10000											Zn-Coating Test			HC-Test	H.I.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	G84178		H	17	2	74	14	7														
			P	15	1	71	13	6	5	1	3	1	2	93								
			P	15	1	71	13	6	5	1	3	1	2	95								
2	P49288		H	6	1	76	11	5														
			P	5	1	76	13	6	2	1	2	2	2	49								
			P	5	1	76	13	6	2	1	2	2	2	50								

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

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SURVEYOR

T. L. Lim
QA Manager

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