CERTIFICATE NO(성적서 번호) : B404470 Page 1 of 1
DATE OF ISSUE(발행일자) : 2017-04-14
CONTRACT(P/O) NO.(계약번호) : 24409
PR NO.(주문서번호) : F161000175
COMMODITY(제품명) : E.R.W. CARBON STEEL PIPE
SPECIFICATION(제품규격) : API 5L B PSL1/ASTM A53B/ASME SA53B

검사증명서
MILL TEST CERTIFICATE
EN10204 3.1/ISO 10474 3.1B

CUSTOMER(고객사): PLESA ANAHUAC Y CIAS., S.A. DE C.V.

HYUNDAI STEEL
울산공장 : 울산광역시 북구 염포로 706
706, Yeompo-ro, Buk-gu, Ulsan, Korea

No.	TYPE OF PIPE E·D ※1	SIZE OUT-DIA×THICK×LENGTH (외경×두께×길이)	PCS (본)	WEIGHT (KG)	TOTAL LENGTH (F)	HEAT No.	Hydrostatic Test Pressure PSI	Hydrostatic Test Time SEC	Spec. Mn.	Spec. 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 HV	Hardness Test & CVN Impact Test ※2 ※3	CVN Impact Test(℃) Absorbed Energy(Joule) 1	2	3	avg	Shear Area (%)	D.W.T Test(℃) Shear Area(%) 1	2	avg
																			Specimen size							
																			Criteria : In the case of 10×10							
							PSI	SEC	Min.	Max.		415	415	245		25		248								
1	EB BE	16" X 0.225 " X 20.177 F	138	47,920	2,784.426	P12913	600	5			T	458	442	340		43	B	155								
																	H	157								
																	W	148								
		TOTAL	138	47,920	2,784.426																					

No.	Heat No.	Spec.	※4	Chemical Composition(%) 2:×100 3:×1000 4:×10000 C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	Ti	Nb	B	CM1 ※8	CM2 ※9	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
		Min.		2	2	2	3	3	2	2	2	3	3	3	3	4	3	3				psi	%	%	%	
		Max.		26		120	30	30	50	50	50	150				10	60	150								
1	P12913		H	6	2	74	12	4																		
			P	6	2	75	10	6	2	1	3	4	2	2	12	1	14	16								
			P	6	2	75	10	6	2	1	3	4	2	2	12	1	13	16								

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 max. for C, an increase of 0.05% above the specified max. for Mn is permissible, up to a max. of 1.65%
※8) CM1=Nb+V
※9) CM2=Nb+V+Ti
※ SPEC YEAR - API 5L 45th Edition(2013)/ASTM A53(2012)/ASME SA53 (2015)
※ License No. : 5L-0026
※ Hardness to NACE MR0175(2013ED) / ISO 15156
※ Hardness to NACE MR0103 / ISO 15156
※ API 5L Annex E(N.D.E) : O.D<6":ECT(1.6mm hole), O.D>6":UT(3.2mm hole)
※ Heat treatment : Normalizing(Temp.871~1100℃, Holding time : max30m/min)

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

COPY

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SURVEYOR

H.K. CHOI
QA Manager

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