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 CONTRACT(P/O) NO.(계약번호) : 23888
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 COMMODITY(제품명) : ERW/HI CARBON STEEL PIPE
 SPECIFICATION(제품규격) : API 5L B PSL1/ASTM A53B

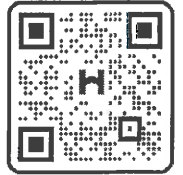
검사증명서

MILL TEST CERTIFICATE

EN 10204 3.1/ISO 10474 3.1B



출신공장 : 울산광역시 북구 영포로 708
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CUSTOMER(고객사): PLESA ANAHUAC Y CIAS., S.A. DE C.V.

No.	TYPE OF PIPE END ※1	SIZE OUT-DIA×THICK×LENGTH (외경×두께×길이)	PCS (본)	WEIGHT (KG)	TOTAL LENGTH (F)	HEAT No.	Hydrostatic Test		Spec.	T	Tensile Properties(Gage Length : 2 inch)				Hardness Test	Hardness Test & CVN Impact Test					D.W.T Test(°C)					
							Pressure PSI	Time SEC			Tensile Strength		Yield Strength Mpa	Y/R Rate %		E.L %	CVN Impact Test(°C)				Shear Area(%)					
											Base Mpa	Weld Mpa					Absorbed Energy(Joule)				Shear Area (%)	1 2 avg				
							Min. Max.	Min. Max.			415	415	245	39		1	2	3	avg	1		2	avg			
1	EB BE	14" X 0.375" X 21.000 F	25	12,973	525	6842333	1140	5		T	526	525	361	39												
2	EB BE	14" X 0.375" X 21.000 F	26	13,491	546	N94397	1140	5		T	470	468	371	42												
3	EB BE	14" X 0.375" X 21.000 F	2	1,038	42	N95176	1140	5		T	486	471	407	41												
TOTAL			53	27,502	1,113																					

No.	Heat No.	Spec.	Chemical Composition(%)														Zn-Coating Test		HC-Test	H.I.C Test			S.S.C.C Test	Remark	
			2 : ×100 3 : ×1000 4 : ×10000														Zn Coating	Copper Sulfate Test	Collapse Pressure	CLR	CTR	CSR			
			C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	Nb	B	CM1	CM2	Time	Result	psi	%	%			%
			※4	※7	※3	※3	※2	※2	※2	※2	※2	※2	※2	※2	※4	※8	※9								
1	6842333	H	17	2	60	14	2																		
		P	17	1	59	12	5	1	2	2	TR	TR	TR	2	1	2	2								
		P	17	1	59	12	5	1	2	2	TR	TR	TR	2	1	2	2								
2	N94397	H	6	2	75	14	6																		
		P	5	2	76	14	8	1	1	3	TR	TR	TR	2	1	2	2								
		P	5	2	76	14	8	1	1	3	TR	TR	TR	2	1	2	2								
3	N95176	H	6	2	78	13	3																		
		P	5	2	77	12	4	1	2	3	TR	TR	TR	2	1	2	2								
		P	5	2	78	12	4	1	2	3	TR	TR	TR	2	1	2	2								

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)
 ※ 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.871~1100c, Holding time : max30m/min)

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

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H.K. CHOI

QA Manager

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