

CERTIFICATE NO.(성적서 번호) : BB03828  
 DATE OF ISSUE(발행일자) : 2017-11-16  
 CONTRACT(P/O) NO.(계약번호) : 25598  
 PR NO.(주문서번호) : F170600262  
 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): 현대중합상사(주)



출산공장 : 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 (F)	HEAT No.	Hydrostatic Test		Spec. ※2 Min. Max.	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 %	Max. Value ※3	CVN Impact Test(°C)				Shear Area(%)							
										Base MPa	Weld MPa					Absorbed Energy(Joule)			Shear Area (%)	1 2 avg							
										415	415	240				Specimen size	Criteria : In the case of 10×10										
1	EB BE	12" X 0.250 " X 20.177 F	64	19,563	1,291.328	JA128	820	5	T	465	471	356		39													
2	EB BE	12" X 0.250 " X 20.177 F	114	34,848	2,300.178	JA129	820	5	T	471	475	362		39													
3	EB BE	12" X 0.250 " X 20.177 F	57	17,424	1,150.089	JA132	820	5	T	499	481	374		31													
4	EB BE	12" X 0.250 " X 20.177 F	51	15,590	1,029.027	SU96370	820	5	T	448	443	317		42													

No.	Heat No.	Spec. ※4 Min. Max.	Chemical Composition(%) 2 : ×100 3 : ×1000 4 : ×10000													Zn-Coating Test		HC-Test Collapse Pressure	H.I.C Test			S.S.C Test	Remark
			C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10	Zn Coating	Copper Sulfate Test	psi	CLR	CTR	CSR				
			2	2	2	3	3	2	2	2	3	3	3	Time	Result		%	%	%				
			30		120	50	45	40	40	40	150	80	1000										
1	JA128	H	13		66	12	4																
		P	13	1	69	11	5	1	1	2	2	1	56										
2	JA129	H	13	1	66	13	3																
		P	13	1	68	12	4	1	1	2	2	1	52										
3	JA132	H	14	1	67	12	4																
		P	14	1	67	12	5	2	2	2	3	TR	72										
4	SU96370	H	18	1	48	9	3																
		P	17	1	47	8	4	1	1	2	3	TR	49										
		P	17	1	47	8	4	1	1	2	3	TR	48										

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

본 제품은 관련 규격에 합격되었음을 보증합니다.  
 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPTED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER.  
 \* 본 검사증명서에 명기된 규격용도의 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위.변조시 사문서 위조로 불이익을 당하실 수 있습니다.

SURVEYOR

H.K. CHOI

QA Manager

CERTIFICATE NO.(성적서 번호) : BB03828  
 DATE OF ISSUE(발행일자) : 2017-11-16  
 CONTRACT(P/O) NO.(계약번호) : 25598  
 PR NO.(주문서번호) : F170600262  
 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): **현대중합상사(주)**

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. ※2	Tensile Properties(Gage Length : 2 in)					Hardness Test		Hardness Test & CVN Impact Test					D.W.T Test(℃)		
							Pressure	Time		Tensile Strength		Yield Strength	Y/R Rate	E.L	Max. Value	CVN Impact Test(℃)				Shear Area(%)				
										Base	Weld					Absorbed Energy(Joule)				Shear Area (%)				
		TOTAL	286	87,425	5,770.622					MPa	MPa	MPa	%	%	※3	※2	1	2	3	avg	1	2	avg	
							PSI	SEC	Min. Max.	415	415	240					Criteria : In the case of 10×10							

No.	Heat No.	Spec. ※4	Chemical Composition(%) 2:×100 3:×1000 4:×10000												Zn-Coating Test		HC-Test	H.I.C Test			S.S.C Test	Remark				
			C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CV3 ※10	Zn Coating	Copper Sulfate Test	Collapse Pressure	CLR	CTR	CSR							
			2	2	2	3	3	2	2	2	3	3	3		Time	Result	psi	%	%	%						
		Min. Max.																								
			30		120	50	45	40	40	150	80	1000														

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

본 제품은 관련 규격에 합격되었음을 보증합니다.  
 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPTED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER.  
 \* 본 검사증명서에 명기된 규격용도의 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위.변조시 사문서 위조로 불이익을 당하실 수 있습니다.

SURVEYOR

*H.K. CHOI*

QA Manager