

CERTIFICATE NO.(성적서 번호) : BB03841  
 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



출산공장 : 울산광역시 북구 영포로 706  
 706, Yeampo-ro, Buk-gu, Ulsan, Korea



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 inch)				Hardness Test ※3	Hardness Test & CVN Impact Test ※2 ※3	D.W.T Test( °C)							
							Pressure	Time		Tensile Strength		Yield Strength	Y/R Rate			E.L	Max. Value	CVN Impact Test(°C)			Shear Area(%)		
										Base	Weld							Absorbed Energy(Joule)			Shear Area(%)		
							PSI	SEC		MPa	MPa	MPa	%			%	1	2	3	avg	1	2	avg
1	EB BE	20" X 0.250 " X 20.177 F	1	483	20.177	G66870	520	5	T	467	487	301	43										
2	EB BE	20" X 0.250 " X 20.177 F	56	27,050	1,129.912	SU96743	520	5	T	472	474	312	40										
3	EB BE	20" X 0.250 " X 20.177 F	32	15,457	645.664	ZG3614	520	5	T	474	488	316	39										
TOTAL			89	42,990	1,795.753																		

No.	Heat No.	Spec. ※4	Chemical Composition(%) 2 :×100 3 :×1000 4 :×10000													Zn-Coating Test		HC-Test Collapse Pressure	H.I.C Test			S.S.C Test	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)
			C	Si	Mn ※7	P	S	Cu	Ni	Cr	Mo	V	CM3 ※10	Zn Coating	Copper Sulfate Test	psi	CLR	CTR	CSR				
			Min.												Time	Result		%	%	%			
			Max.																				
1	G66870	H	7	13	68	14	2																
		P	5	12	69	12	4	1	1	3	3	2	60										
2	SU96743	H	17	1	48	11	2																
		P	16	1	46	9	3	1	1	3	3	1	52										
3	ZG3614	H	17	2	64	17	4																
		P	16	3	63	18	6	2	2	3	4	1	68										
		P	15	3	62	18	6	2	2	3	4	1	68										

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 규격용도와 사용자 안전상 문제가 발생할 수 있으며, 검사증명서 위.변조시 사문서 위조로 불이익을 당하실 수 있습니다.

**H.K. CHOI**  
QA Manager

SURVEYOR