

MATERIAL TEST & INSPECTION CERTIFICATE

SUNGKWANG BEND CO., LTD.(SKB)

26, Noksansandan 262-ro, Gangseo-Gu, Busan, Korea
 TEL : 82-051-3300-450
 FAX : 82-051-3300-335
 http://www.skbend.com

CUSTOMER: FORGINGS FLANGES & FITTINGS INC.
 PROJECT NAME: N/A

According to
 DIN 50049 3.1 / EN 10204 3.1 / ISO 10474 3.1

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PURCHASE ORDER NO.	174537	SPEC. FOR MATERIAL	ASTM/ASME A/SA234WPB-S 11/10ED WITH 110DD	CERTIFICATE NO.	QCLH2014022062
PJT NO.	N/A	SPEC. FOR INSPECTION	ASME B16.9	DATE OF ISSUE	2014.02.18
STARTING MATERIAL	STEEL PLATE	SKB NO.	2013062720	VISUAL & DIMENSION	SATISFACTORY

NO.	SEQ/LINE/ITEM NO	DESCRIPTION	QTY	HEAT NO.	MFG ID NO.	PORICODE/TAG NO
8		CAP STD 8" B.W SMLS Black	400	SF37938	SF37938	

CHEMICAL COMPOSITION(%) (L : LADLE, P : PRODUCT)

TENSILE TEST(Gauge Length :5D)

STD.	SPEC.	C	SI	Mn	P	S	NI	Cr	Mo	Cu	V	Nb	N	Al	B	Zr	Fe	TI	C.E	SPEC.	Y.S 0.2% offset	T.S	EL.	RA	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
HEAT NO.																									
SF37938	L	0.11	0.25	0.80	0.012	0.005	0.01	0.02	0	0.01	0										45.6	68.4	38.0		
	P																								
	L																								
	P																								

IMPACT TEST	TEST TEMP.	SIZE OF SPECIMEN(mm)	ABSORBED ENERGY STD./		LATERAL EXPANSION STD./		PERCENT SHEAR STD./		HARDNESS HB		HEAT TREATMENT	NORMALIZED. 900°C, 30Min., "Air"													
			VALUE	AVE.	VALUE	AVE.	VALUE	AVE.	MIN	157		PHI	N/A	N.D.E	N/A										
HEAT NO.																									
SF37938		B/M																							
		H.A.Z																							
		W/M																							
		B/M																							
		H.A.Z																							
		W/M																							

MATERIAL MEETS THE REQUIREMENTS OF NACE MR0175-2009 & 0103-2012
 PED 97/23/EC / MATERIAL ALL MANUFACTURED IN KOREA.
 FREE OF MERCURY & FREE OF RADIATION

WE CERTIFY THIS MATERIAL HAS BEEN MANUFACTURED AND EXAMINED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE SPECIFICATION AND THE RESULTS OF ALL EXAMINATION ARE ACCEPTABLE.

REVIEWED BY : _____
 WITNESSED BY : _____

Chul Suk

QM DIV. SENIOR MANAGING DIRECTOR

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