

MATERIAL TEST & INSPECTION CERTIFICATE

 **SUNGWANG BEND CO., LTD.(SKB)**

1720, Songjeong-Dong, Gangseo-Ku, Busan, Korea

TEL : 82-051-3300-450

FAX : 82-051-3300-335

http://www.skband.com

CUSTOMER: ALLIED FITTINGS

PROJECT NAME: N/A

According to

DIN 50049 3.1 / EN 10204 3.1 / ISO 10474 3.1

PURCHASE ORDER NO.	42908SB	SPEC. FOR MATERIAL	ASTM A234WPB-W 06a, ASME SA234WPB-W 04ED	CERTIFICATE NO.	QCLJ2008081403
PJT JOB NO.	N/A	SPEC. FOR INSPECTION	ASME B16.9	DATE OF ISSUE	2008.06.23
STARTING MATERIAL	STEEL PLATE	SKB JOB NO.	2008050612	VISUAL & DIMENSION	SATISFACTORY

NO.	SEQ/LINE/ITEM NO	DESCRIPTION	QTY	HEAT NO.	MFG ID NO.	MILL MAKER	POR/CODE/TAG NO
2		90D ELBOW LONG X-S 30' B.W WELDED Black /	17	SA90747	SA90747	POSCO	

CHEMICAL COMPOSITION (%) (L: LADLE, P: PRODUCT)																				TENSILE TEST						
HEAT NO.	STD.	SPEC.	C	SI	Mn	P	S	Ni	Cr	Mo	Cu	V	Nb	N	Al	B	W	Sn	Ti	C.E	SPEC.	Y.S	T.S	EL.	RA	
																						KSI	KSI	%	%	
SA90747	MIN			0.10	0.29																	MIN	35.0	60.0	30.0	
	MAX	0.25		1.06	0.050	0.058	0.40	0.40	0.15	0.40	0.06											MAX		85.0		
SA90747	L	0.15	0.28	0.82	0.015	0.003	0.01	0.02	<0.01	0.01	<0.001												44.1	68.9	40.0	
	P																									
	L																									
	P																									

HEAT NO.	IMPACT TEST	TEST TEMP.	SIZE OF SPECIMEN(mm)	ABSORBED ENERGY		LATERAL EXPANSION		PERCENT SHEAR		HARDNESS HB		HEAT TREATMENT	HOT FORMED. 870°C. N/A., "Air"									
				STD. /	AVE.	STD. /	AVE.	STD. /	AVE.	MIN	MAX		N.D.E	R.T:GOOD	PMI	N/A						
SA90747										MIN	197	FLATTENING TEST	N/A	N/A	N/A	N/A	N/A	N/A				
										MAX	146											
				B/M																	BENDING TEST	N/A
				H.A.Z																	HYDROSTATIC TEST	N/A
				W/M																	CORROSION TEST	N/A
																					GRAIN SIZE TEST	N/A
											HIC TEST	N/A										

- MANUFACTURED IN ACCOR. TO DIN 50049-3.1 & MEET NACE MR0175-2003 STANDARD SPEC.

- R.T REPORT NO. : HIE-BS-SKALL-RT-08-06-193

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 : _____

[Signature]

QM DIV. SENIOR MANAGING DIRECTOR

SKE-8903

ALLIED FITTING
TRUE COPY OF
ORIGINAL MTR
SIG *[Signature]*