

Ord# 572974-1; PO# 011; HW# J8K8106; 4 X 3 STD RED TEE WPB

# MATERIAL TEST & INSPECTION CERTIFICATE


**SUNGKWANG BEND CO., LTD.(SKB)**  
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CUSTOMER: FORGINGS FLANGES & FITTINGS INC.  
 PROJECT NAME: N/A

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

39514

PURCHASE ORDER NO. 172509		SPEC. FOR MATERIAL		ASTM/ASME A/SA234WPB-S 07/07ED		CERTIFICATE NO.		QCLP2011120435	
PJT-NO. N/A		SPEC. FOR INSPECTION		ASME B16.9		DATE OF ISSUE		2011.10.25	
STARTING MATERIAL SEAMLESS PIPE		SKB NO.		2011062812		VISUAL & DIMENSION		SATISFACTORY	

NO.	SEQ/LINE/ITEM NO	DESCRIPTION				QTY	HEAT NO.	MFG ID NO.	POR/CODE/TAG NO
149		REDUCING TEE	STD*STD	4"X3"	B.W.SMLS	Black	250	J8K8106	J8K8106
150		REDUCING TEE	STD*STD	6"X2"	B.W.SMLS	Black	40	7-05660	7-05660

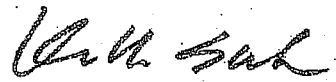
CHEMICAL COMPOSITION(%) (L : LADLE, P : PRODUCT)																			TENSILE TEST							
HEAT NO.	STD.	SPEC.	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	Nb	N	Al	B	Zr	Fe	Ti	C.E	SPEC.	Y.S 0.2% offset	T.S	EL.	R.A	
																					MIN	KSI	KSI	%	%	
7-05660		MIN		0.10	0.29																	MIN	35.0	60.0	*1	
		MAX	0.30		1.06	0.050	0.058	0.40	0.40	0.15	0.40	0.08										MAX		85.0		
		L	0.20	0.19	0.48	0.007	0.002	0.01	0.01	<0.01	0.01	0.001											43.5	65.5	40.0	
J8K8106		L	0.19	0.21	0.55	0.020	0.006	0.02	0.04	0.01	0.02	0											45.3	71.5	38.0	
		P																								

HEAT NO.	IMPACT TEST	TEST TEMP.	SIZE OF SPECIMEN(mm)	ABSORBED ENERGY				LATERAL EXPANSION				PERCENT SHEAR				HARDNESS HB		HEAT TREATMENT	NORMALIZED. 900°C, 30Min., "Air"									
				STD. /		VALUE		STD. /		VALUE		STD. /		VALUE		MIN	197		PHI	N/A	N.D.E	MT-GOOD						
				VALUE	AVE.	VALUE	AVE.	VALUE	AVE.	VALUE	AVE.	MAX	145															
7-05660			B/M																									
			H.A.Z																									
			W/M																									
J8K8106			B/M																									
			H.A.Z																									
			W/M																									

MATERIAL MEETS THE REQUIREMENTS OF NACE MR0175 & 0103.  
 PED(97/23/EC)

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 :

  
 QM DIV. SENIOR MANAGING DIRECTOR