



**INSPECTION CERTIFICATE**  
EN 10204 3.1 : 2004

**AWAJI MATERIA (THAILAND) CO.,LTD.**

81,MOO4, PRAKASA ROAD, TAMBOL BANGMUANG, AMPHUR MUANG  
SAMUTPRAKARN THAILAND 10270, Tel : (662)701-5226

ISO 9001 : 2008 Manufacturing Company  
Certified by BV. Certificate No. A-TH10000101

Material manufacturer QMS acc.  
PED 97/23/EC Annex1. Par4.3/AD2000W0  
Certified by TÜV Rheinland  
Certificate No. 01 202 ROC/Q-10 0230

Date : APRIL 26, 2012

Certificate No. : T12-41082

Purchaser : FORGINGS FLANGES & FITTINGS, INC.

**MADE FROM SEAMLESS STEEL PIPE**

Order No. 172867/14		Job No. -		Product CARBON STEEL BUTT WELDING FITTINGS												Raw Material Pipe Maker SUMITOMO METAL INDUSTRIES, LTD. (JAPAN)						
Inspection Standard ASME B16.9-07. ASME B16.25-07 ASTM A960-10 NACE MR-0175/ISO 15156-09 MR-0103-10		Material Standard ASTM A234-11. WPB ASME SA234-10. WPB except nuclear usage		Visual GOOD				Dimension GOOD				Pipe Heat No. : J1K8000		*4 UT Inspection -		Magnetic Particle Test GOOD						
Manufacturing No. (Heat code) 21501	Product Code -	Material WPB	Article & Size STD REDUCING TEE 4" x 2						Quantity 250 Pcs.		Note											
Specification	*1 Chemical Composition (%)																*2 Mechanical Test			Hardness		
	C	Si	*3 Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	Ca	N	Al	CE.	Y.S.	T.S.		E	
	Min.	X100	X100	X100	X1000	X1000	X100	X100	X100	X100	X100	X100	X100	X10000	X10000	X1000	X1000	X100	MPa		%	HB
Max.	-	10	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	415	24	-	
Heat No.	30	-	106	50	58	40	40	40	15	8	2	-	-	-	-	-	-	-	-	-	197	
J1K8000	L	19	22	67	18	6	1	2	5	1	0	0	0	1	11	6	15	32	325	477	37.9	135
	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

\*4 UT = Ultrasonic thickness inspection

CE = C +  $\frac{Mn}{6}$  +  $\frac{Cr+Mo+V}{5}$  +  $\frac{Ni+Cu}{15}$

\*1 Equivalent for A234 WPB  
\*2 Y.S.= Yield Strength (0.2% offset), T.S. = Tensile Strength, E = Elongation (in 50mm)  
\*3 As per foot note D of ASTM A234 Table 1.  
L = Ladle Analysis, P = Product Analysis  
Weld repair is not applied to our products.  
Steel Making by Vacuum degassed, killed steel.

AT-24(2)15

ELBOW / Forming temperature 850°C-945°C and cooled in still air  
TEE, REDUCER & CAP / Normalizing : 910°C

We hereby certify that the material described herein has been duly inspected and conforms to the standard as specified above.

Surveyor to

QA. GM. /Work Inspector **S. MAEKAWA**