

52958



INSPECTION CERTIFICATE

EN 10204 3.1 : 2004

AWAJI MATERIA (THAILAND) CO., LTD.

81,MOO4, PRAKASA ROAD, TAMBOL BANGUANG, AMPHIUR MUANG
SAMUTPRAKARN THAILAND 10270, Tel : (062)701-5228

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

Material manufacturer QMS acc.
PED 87/23/EC Annex 1, Part A3/AD2000W0
Certified by Lloyd's Register
Certificate No. 90207/1A1

Date : FEBRUARY 14, 2013

Certificate No. : T18-20767

Purchaser : FORGINGS FLANGES & FITTINGS, INC.

Order No. 172601/14	Job No. -	Product CARBON STEEL BUTT WELDING FITTINGS	Raw Material Pipe Maker SUMITOMO METAL INDUSTRIES, LTD. (JAPAN)																																																																																																																											
Inspection Standard ASTM A234-11a, WPB ASTM A986-10 ASME SA234-10, WPB NACE MR-0175/ISO 16158-09 MR-0109-10	Material Standard ASTM A234-11a, WPB ASME SA234-10, WPB except nuclear usage	Dimension GOOD	Pipe Heat No. : J2LS087																																																																																																																											
Manufacturing No. (Heat code) 32517	Material WPB	Article & Size TEE 4" x 2"	Magnetic Particle Test GOOD																																																																																																																											
Specification Min. Max. Heat No. J2LS087	Material WPB	Quantity 740 Pcs.	Note.																																																																																																																											
<table border="1"> <thead> <tr> <th rowspan="2">C</th> <th rowspan="2">Si</th> <th rowspan="2">Mn</th> <th rowspan="2">P</th> <th rowspan="2">S</th> <th rowspan="2">Cu</th> <th rowspan="2">Ni</th> <th rowspan="2">Cr</th> <th rowspan="2">Mo</th> <th rowspan="2">V</th> <th rowspan="2">Nb</th> <th rowspan="2">Ti</th> <th rowspan="2">B</th> <th rowspan="2">Ca</th> <th rowspan="2">N</th> <th rowspan="2">Al</th> <th rowspan="2">C.E.</th> <th colspan="3">#2 Mechanical Test</th> </tr> <tr> <th>Y.S.</th> <th>T.S.</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>X100</td> <td>X100</td> <td>X100</td> <td>X10000</td> <td>X10000</td> <td>X100</td> <td>X100</td> <td>X100</td> <td>X100</td> <td>X100</td> <td>X100</td> <td>X100</td> <td>X1000</td> <td>X10000</td> <td>X1000</td> <td>X1000</td> <td>X1000</td> <td>MPa</td> <td>%</td> <td>HB</td> </tr> <tr> <td>10</td> <td>29</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>240</td> <td>415</td> <td>24</td> </tr> <tr> <td>30</td> <td>-</td> <td>106</td> <td>50</td> <td>58</td> <td>40</td> <td>40</td> <td>40</td> <td>15</td> <td>8</td> <td>2</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>197</td> </tr> <tr> <td>L 19</td> <td>22</td> <td>78</td> <td>18</td> <td>5</td> <td>1</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>10</td> <td>4</td> <td>11</td> <td>33</td> <td>299</td> <td>457</td> <td>37.9</td> </tr> <tr> <td>P</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>131</td> </tr> </tbody> </table>				C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	Ca	N	Al	C.E.	#2 Mechanical Test			Y.S.	T.S.	E	X100	X100	X100	X10000	X10000	X100	X100	X100	X100	X100	X100	X100	X1000	X10000	X1000	X1000	X1000	MPa	%	HB	10	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	415	24	30	-	106	50	58	40	40	40	15	8	2	-	-	-	-	-	-	-	-	197	L 19	22	78	18	5	1	2	5	1	0	0	0	1	10	4	11	33	299	457	37.9	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131
C	Si	Mn	P																		S	Cu	Ni	Cr	Mo	V	Nb	Ti	B	Ca	N	Al	C.E.	#2 Mechanical Test																																																																																												
				Y.S.	T.S.	E																																																																																																																								
X100	X100	X100	X10000	X10000	X100	X100	X100	X100	X100	X100	X100	X1000	X10000	X1000	X1000	X1000	MPa	%	HB																																																																																																											
10	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	415	24																																																																																																											
30	-	106	50	58	40	40	40	15	8	2	-	-	-	-	-	-	-	-	197																																																																																																											
L 19	22	78	18	5	1	2	5	1	0	0	0	1	10	4	11	33	299	457	37.9																																																																																																											
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	131																																																																																																											

Country of Melt : JAPAN

#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.
ELDOW / 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 : _____
S. MAEKAWA
QA Ctr. / Work Inspector

AT: 24(2)17