1 2 3.

4.

5. 5.1

-

C



Fig. 5.1 Schematic illustration of Hot-wire laser brazing for flare joint.



(a)M4043 wire (b)A5183-WY wire Figs. 5.2 Cross-sections of 270MPa steel / AA5052 flare joint.

5.2

× ×

×

CR steel sheet	-	0.002	0.004	0.09	0.016	0.004	Bal			

Si	Fe	Mg	Sn	Mn	Cr	Cu	Zn	Ti	AI
12	0.6	0.10	-	0.15	-	0.3	0.2	0.15	Bal.
0.40	0.40	4.3~5.2	-	0.50~1.0	0.05~0.25	0.10	0.25	0.15	Bal.



Fe

<u>1 µm</u>

Si

<u>1,µm</u>

SEM

<u>1 µm</u> Al

<u>1 µm</u>

B

IMC

Steel





CR steel	Gisteel	GA steel
Bead		and the provention of the
+ P2 +	P3 + P2	P3 P4 + P2 P1 + P1 +
<u>1μm</u>	Steel	<u>1 μm</u> Steel <u>1 μm</u>

Atomic concentration (IMC) [%]

	CR	Fe	AI	Si	GI	Fe	AI	Si
	P1	29.49	50.25	20.26	P1	22.36	61.77	15.82
	P2	25.30	57.91	16.79	<u>P2</u>	20.09	62.20	17.65
, MUM	P3	26.60	59.33	14.07	P3	22.42	61.69	15.87



Rsteen	Stéer3°	ASteer Bead
Bead P2 IMC	P2 IMC	P3 + IMC P2
Steel P1	Pl	remain the
1 <u>µ</u> m	Chi Steel 1 um store talaan	Steel 1 <u>u</u> m

Atomic concentration [%]

CR	Fe	AI	Mg		GI	Fe	AI	Mg	GA	Fe	AI	Mg	
.P1	32.08	67.22	0.69]	P1	35.43	63.42	0.57	 P.1	52 84	45_60	0.32	٦

6.

7.