

Table 1 Welding conditions.

Arc current (A)	138~145
Arc length (mm)	5
Welding speed (mm/s)	10~17
Wire feeding speed (mm/s)	10~15
Wire feeding angle (deg)	27
Wire feeding position (mm)	0
Ar (L/min)	15

Table 2 Welding conditions

Arc current (A)	12
Arc length (mm)	2
Welding speed (mm/s)	4.5
Wire feeding speed (mm/s)	5
Wire feeding angle (deg)	27
Wire feeding position (mm)	0
Ar (L/min)	15

Table 3 Observation conditions.

Flame rate (fps)	100
Shutter speed	1000
Aperture	16~32
Bandpass filter	950±10

Fig. 1
4

3

50%

Fig. 2

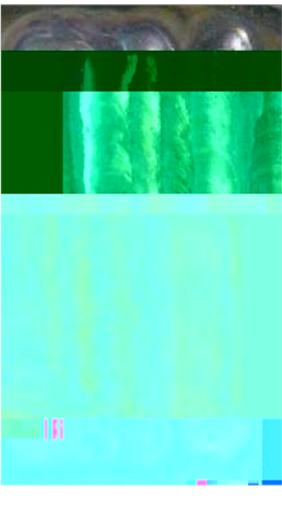
Arc current: 138 A Wire feeding speed: 15 mm/s Welding speed: 1.7 mm/s	138 A 12 mm/s 1.3 mm/s	145 A 10 mm/s 1.0 mm/s	140 A 12 mm/s 1.3 mm/s
			

Fig. 1 Appearances of weld bead.



Fig. 2 High speed camera image.

Fig. 3

Fig.4



10 mm

Fig. 3 Appearances of weld bead.

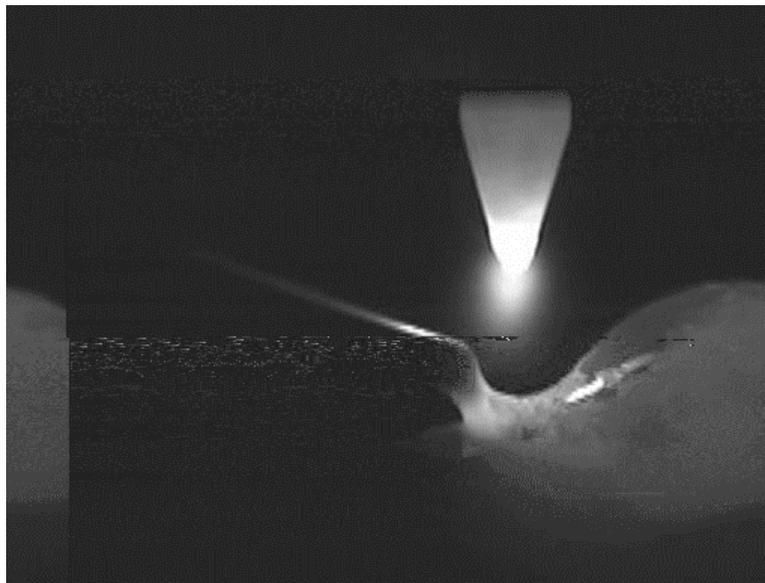


Fig. 4 High speed camera image.

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