Ideal for Welding High Strength Steel and Gigacast Components in Electric Vehichles!

Synchro Feed Evolution

2024 Japan International Welding Show

Environment surrounding the automobile industry

EV shifting (cruising range)

Efforts

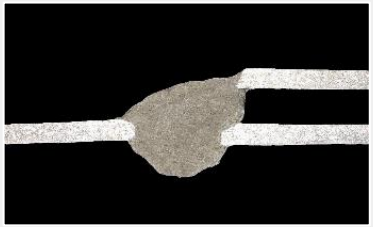
Weight reduction ⇔ strength assurance

Material change

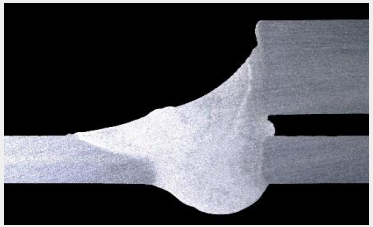
Ultra-high tensile strength steel sheets

Aluminum (Giga-cast, etc.)

Joint task



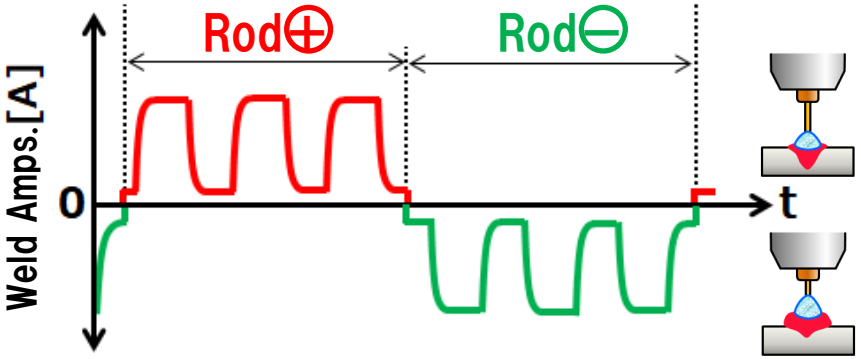
Melt off
Insufficient amount of welding

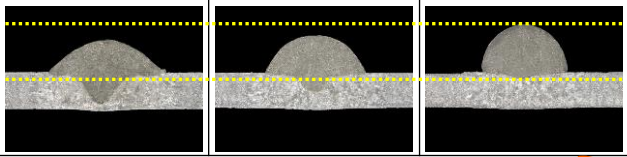


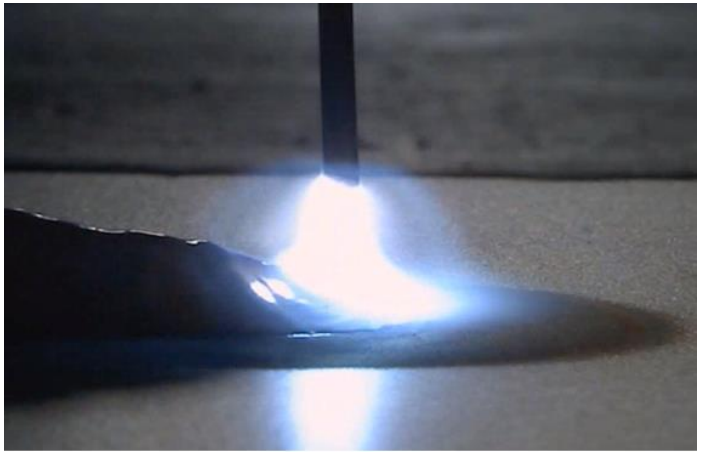
High welding with low heat input is required.

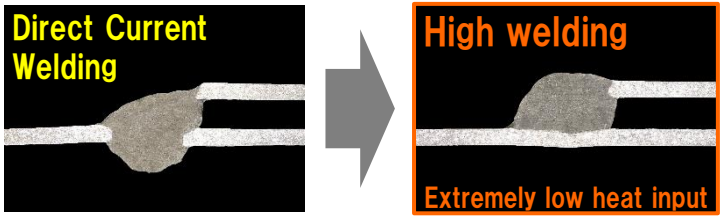
NEW Orthogonal synchro feed welding

Ideal for thin ultra-high-tensile materials (iron materials).



Rod ⊖	0%	50%	100%
Cross section			
Heat input	Large		Small
Welding quantity	Small		Large





Weldable gaps over plate thickness!

Lap weld with 0.6 mm, 0.8 mm gapped plate thickness

Sheet sheet parts

Gap welding over plate thickness

Welding conditions	
Welding current and voltage	80 A、13.8 V
Welding speed	60 cm / portion
Base metal	Ultra-high tensile strength steel
Fitting	Lap joint (upper plate 0.6 mmt, lower plate 0.8 mmt)
Gap	1 mm

AC synchro feed welding

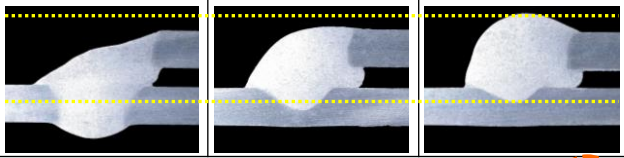
Ideal for welding aluminum material (giga cast)!

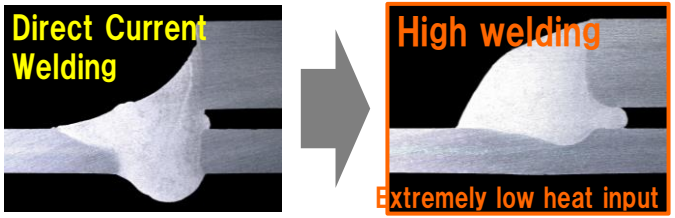
Rod⊕

- Melt the base metal
- Cleaning action

Rod⊖

- Melt the wire
- Reduction of heat input to base materials

Rod⊖	0%	15%	25%
Cross section			
Heat input	Large → Small		
Welding quantity	Small → Large		



※D.C. welding is only for rod +

Lap welding of different plate thicknesses

EV outer case

Thickness difference + gap welding

Welding conditions	
Welding current and voltage	125 A、14.0 V
Welding speed	60 cm / portion
Base metal	A6061 upper plate 3 mmt, lower plate 2 mmt (gap 1 mm)
Welding method	AC synchro feed pulse welding
Wire	A4047 1.2 mmΦ

For high-quality welding of synchro-feed evolution Contribute to the welding of automobiles, which are becoming more difficult.


DAIHEN