TOPWELL®

PROFESSIONAL IN WELDING

ULS

ULTRA LOW SPATTERS

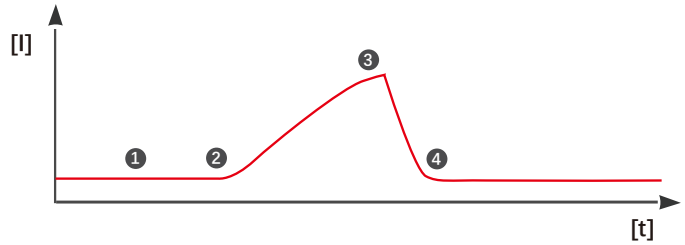
75% Less Spatter | Lower Filler Consumption | 25% Savings On Gas Costs | Greater Penetration

THE ULTRA LOW SPATTERS WELDING PROCESS

The ULS process is a modified shourt-arc transfer arc, it controls the volatility during the change of state between short and arc to control the amount and size of the spatter generated.

a Standard Short Circuit Transfer Arc

As soon as the short circuit is detected the current is increased. The arc ignites at a relatively high short circuit current and high arc pressure. This can lead to welding spatter and instabilities.

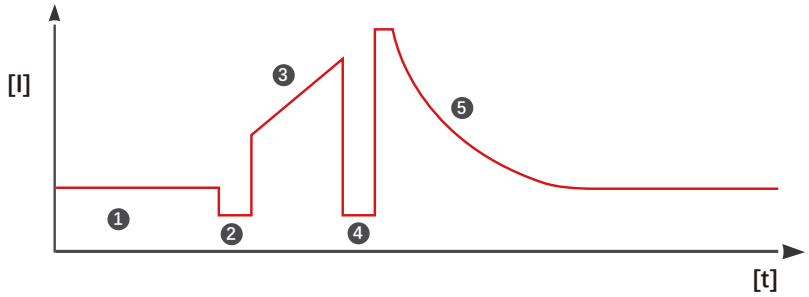


b Standard-Short Arc

1 Droplet formation
2 Component contact
3 Droplet is “pinched”
4 Droplet detachment spatter

c ULS Transfer Arc

ULS ignites arc at relatively low current levels, relying on programmed to drastically reduce current during the pinch phase, thereby reducing the energy and spatter during droplet detachment and explosion. Also the gentle drop in current and the surface tension in the tail-out phase promotes a smooth and mild droplet transition, reducing CO_2 impact and solid spatter.



d ULS-Short Arc

1 Droplet formation
2 Component contact current is reduced lower droplet load
3 Droplet is “pinched”
4 Droplet detachment current is reduced spattering is minimised

5 Deeper penetration is achieved by increasing the current

THE ADVANTAGES

Up to 75% Less Spatter

- Less rework
- Lower filler material consumption
- Fewer rejects
- Less cleaning required and savings on wearing parts

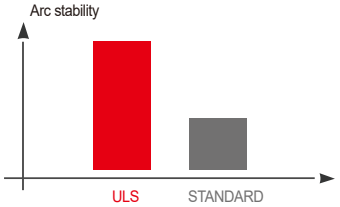
Up to 25% Savings on Gas Costs

- Lower gas costs through the use of 100% CO2
- Greater penetration through the use of 100% CO2

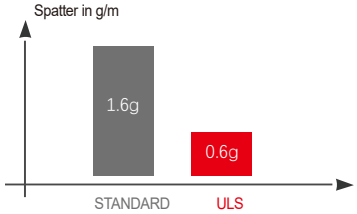
High Process Stability

- Improved process stability in the area of the intermediate arc
- No additional sensor line needed

High Process Stability

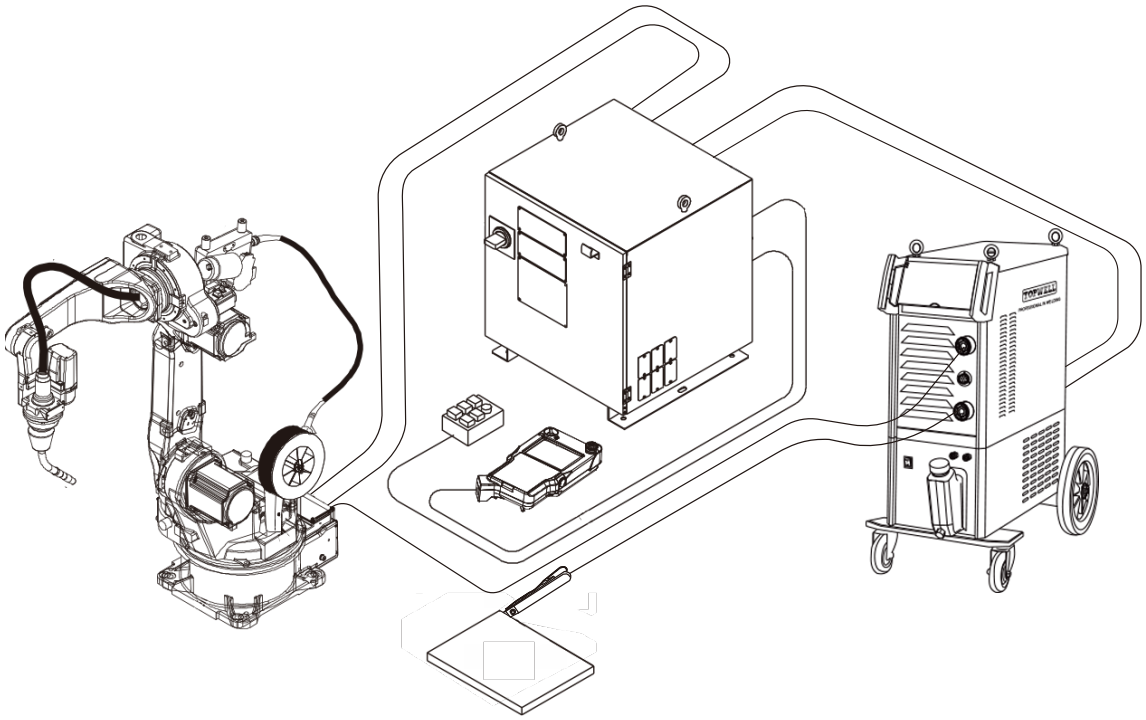


Extrmely Little Spatter



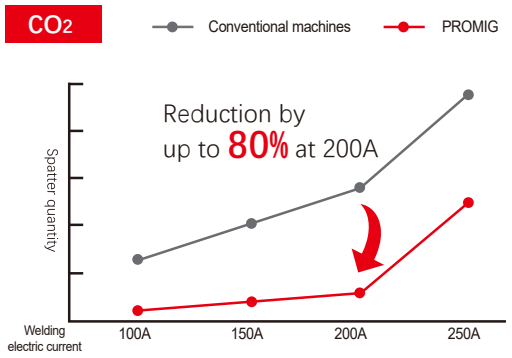
MORE REMARKABLE PERFORMANCE WITH AUTOMATIC AND ROBOTIC WELDING

Welding with Robot or carriage to ensure an excellent performance.

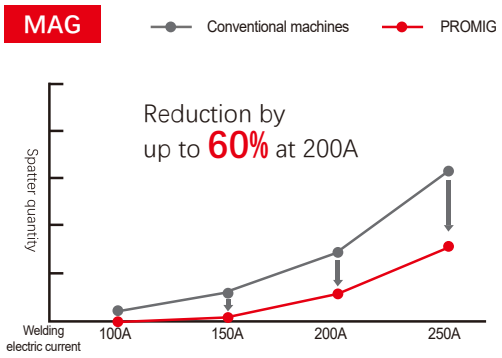


ULS PERFORMANCE IN CO_2 AND MAG WELDING PROCESS

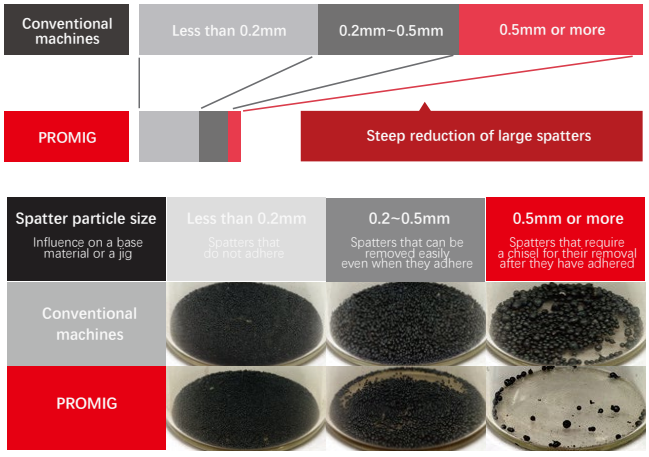
Realization of low-spatter generation equivalent to MAG welding even using CO_2 welding



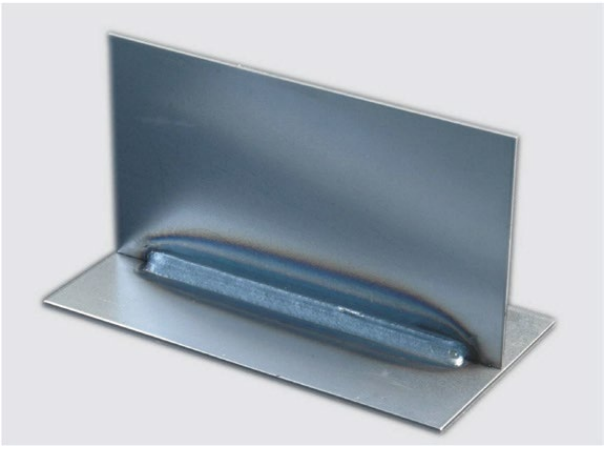
Reducing spatters to the utmost limit even by MAG welding



Furthermore, the adhesion of generated spatters to a base material or a jig can be reduced owing to the small particle forms.As a result, you can significantly reduce the number of man-hours required for removing spatters, leading to a reduction in the frequency of cleanup work of the nozzle.

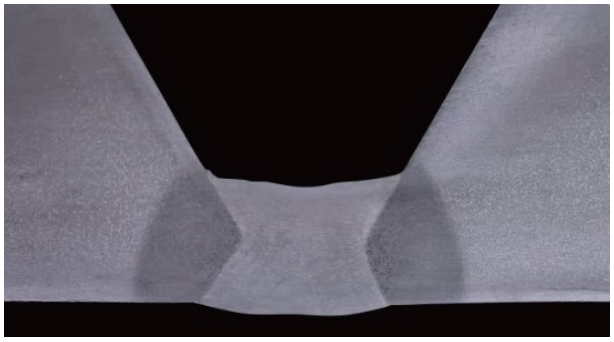


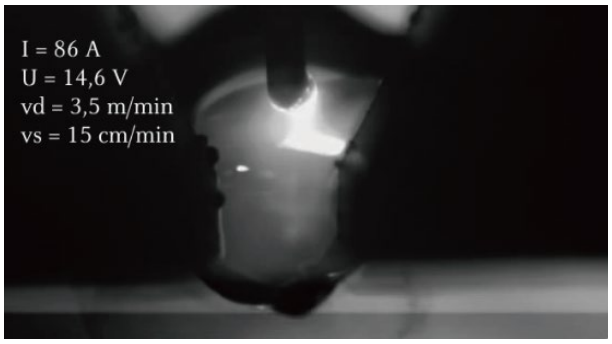
·Welding electric current: 200A ·Welding speed: 50cm/min
·Wire size: φ1.2mm ·Shield gas: CO_2 ·Welding time: 2.5min



· Welding current: 130A · Shield gas: MAG

ULTRA LOW-SPATTER PERFORMANCE IN ROOT WELDING PROCESS





With challenging root passes where a higher arc pressure is required, the ULS Root characteristic impresses above all with its ease of use and perfect root formation.

RELATED PRODUCTS

PROWAVE SERIES / PROMIG SERIES / STEELMATE SERIES

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