

Lorch RCS

Assignment

RCS is a synergistically controlled modified process control variant for MSG welding (ISO 857 process no. 13) for short arc welding. Special features:

- Virtually spatter-free
- Can be used with greatly reduced energy consumption

Advantages

- **Clean surfaces, no reworking, less scrap, less wear**

RCS technology ensures a virtually spatter-free short arc process

- **Energy working range from cold to hot**

RCS technology enables a wide, virtually spatter-free working window

- **Automation / manual welding**

Ideally suited for both types of application

- **Particularly suitable materials**

Steel, CrNi

- **Reduction in welding fume emissions**

Proven for this type of process by studies conducted by independent institutes

Working ranges

Material	Shielding gas	Wire diameter [mm]
CrNi ER 308	Ar/2.5CO ₂	0.8, 1.0
CrNi ER 316	Ar/2.5CO ₂	0.8, 1.0
	Ar/15-25CO ₂	0.8, 1.0
Fe	Ar/5-15CO ₂	0.8, 1.0
	CO ₂	0.8, 1.0

- The working areas are continuously being expanded and can be supplemented via firmware updates.

Notes

Setting

- Control parameters (primary setting value): wire feed speed
- Derived control parameters (predicted values): current, voltage, power
- Fine adjustment: arc length, dynamics

Display values

- Set value wire feed speed (control parameter)
- Prognosis (arithmetic mean values) for current [A], voltage [V] and power [kW]
- Recommended sheet thickness for welding [mm]
- Actual values: current [A], voltage [V], wire feed speed [m/min] and effective electrical power output [kW]
- Actual values (during welding) and hold values (after welding)

Tips for optimal results

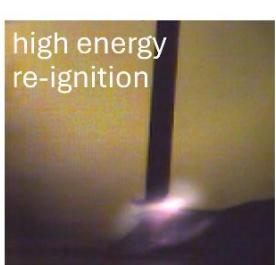
- Low welding circuit inductance (short cables, not coiled)
- Good, interference-free ground contact (no sliding contacts)
- Clean seam preparation; regular replacement of the contact tube on the torch
- Avoid a pushing torch angle
- Avoid simultaneous welding on a workpiece with multiple power sources; at least test beforehand with separate ground connections positioned close to the respective welding points.

Availability

- The RCS process is available for the iQS power supply series.

Control technology

RCS stands for Rapid Current Shutdown. The short circuit and arc phases are split into different controlled sectors. The control system detects the beginning of the end of the controlled material transfer in the short circuit and immediately reduces the current using special power electronics, so that every short circuit is resolved at very low current and the arc phase always ignites without spattering.



Without
RCS



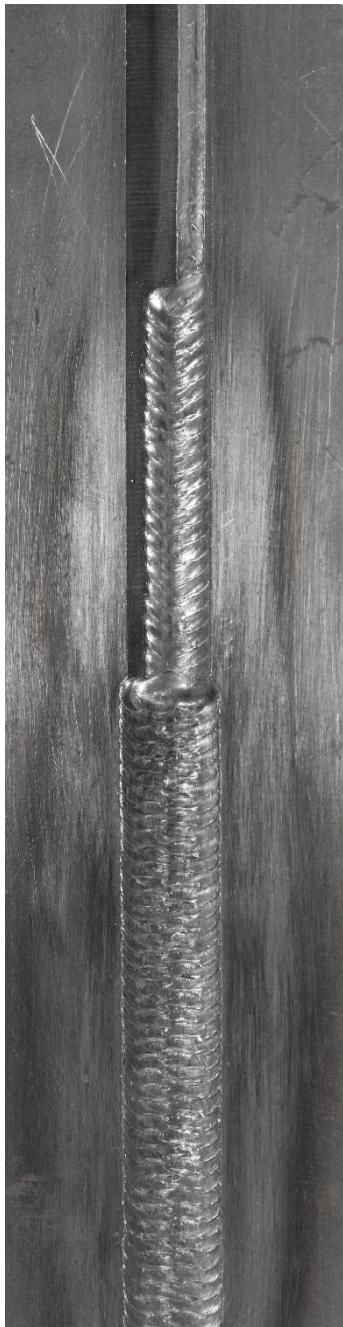
With
RCS



G3Si1, Ø1.0mm, M21 - 4m/min

Based on a selectable combination of material, wire and gas and the specified wire feed speed, all other necessary parameters are loaded from a database. The process settings can be individually adjusted by the user within reasonable limits.

Application example



Uphill welding, PF position, steel, 3 layers



Backside view of root