



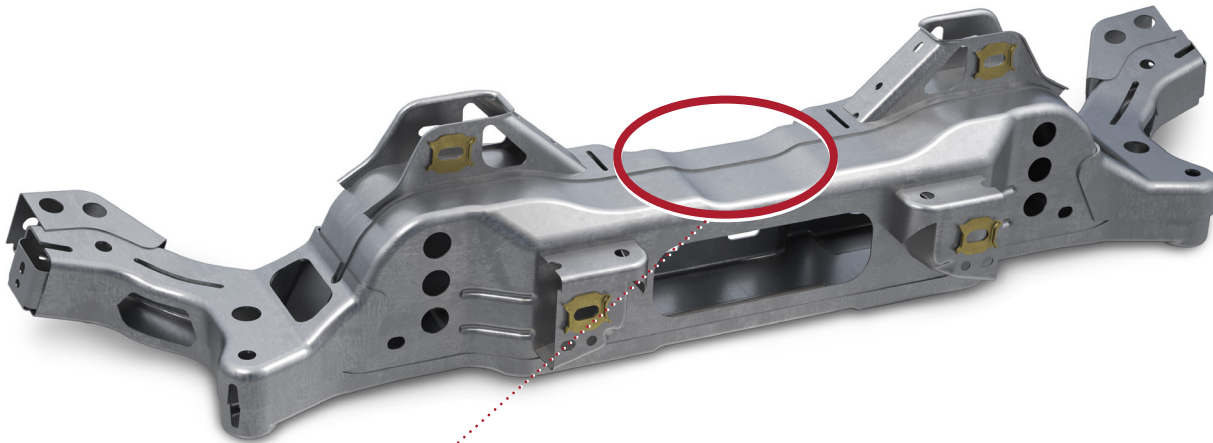
LINCOLN ELECTRIC

# LOW SILICATE GMAW SOLUTION

Industry requirements for increased corrosion life on automotive frames, sub-frames and suspension components have created a challenge for OEMs and suppliers. In order to meet these new challenges, Lincoln Electric has developed a combined process of wire and waveform that produces extra low surface silicates, improves paint adhesion and provides increased corrosion resistance while maintaining the high speed, low spatter, robust performance required for high volume production.



## TYPICAL WELD RESULTS



### SuperArc® XLS

The innovative chemistry of Super Arc® XLS wire produces GMAW welds with significantly reduced surface silicates.



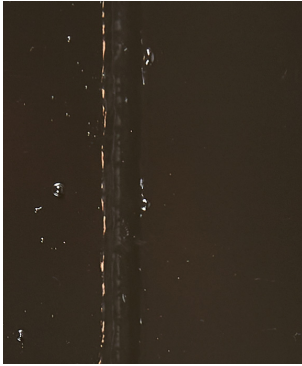
### Industry Standard ER70S-6

Industry standard ER70S-6 chemistry produces GMAW welds with surface silicates that require post-weld clean up or chemical descaling before many painting processes.

## CORROSION TESTING

With identical pre-paint treatment and coating types, SuperArc® XLS improves paint adhesion both on the weld bead and at the weld toes. This improved adhesion and paint coverage contribute to greater corrosion life as indicated by the test coupons below.

### AS COATED



SuperArc® XLS



ER70S-6

### 25CCT (Cyclical Corrosion Test)



SuperArc® XLS



ER70S-6

## SOLUTION COMPONENTS



### SuperArc® XLS

Premium MIG wire engineered to minimize surface silicates

- » Engineered chemistry for a wide range of base material types
- » Reduced silicates for improved paint adhesion and increased corrosion resistance
- » Smoother arc operation reduces spatter and improves arc stability



### Rapid X® LS Waveform

Advanced Waveform

- » Designed to deliver low spatter operation for SuperArc® XLS wire
- » High speed waveform to increase travel speed and improve productivity
- » Stable arc over a wide operating range for varying material thicknesses



### Power Wave®

Advanced Process Welders

- » Robust construction for demanding production environments
- » Waveform Control Technology® to utilize the optimized process on varying joints
- » Embedded data collection software tools - Checkpoint® and Weldscore®
- » Robotic, Hard-Automation and Semi-Automatic configurations

#### Test Results Disclaimer

Test results for mechanical properties, deposit or electrode composition and corrosion performance were obtained from welds produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Actual results may vary depending on many factors including, but not limited to, the welding consumable type, waveform, weld procedure, base material, joint design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

#### Customer Assistance Policy

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice

about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.