



**betaweld**<sup>®</sup>  
*creating better welding solutions*

**PROFESSIONAL SEAMLESS  
FLUX CORED WIRES**

**SL SERIES**<sup>®</sup>  
SEAMLESS WELDING

# A NEW GENERATION OF SEAMLESS FLUX CORED WIRES



## What is Flux Cored Seamless Technology?

Seamless cored wires are among the latest in welding wire technology, resulting in multiple advantages to both the operator and end user. As illustrated in the diagram below, the metal strip is first folded to a round tube, joined by high frequency welding process, then drawn down to the filling diameter.

The tube is then filled with agglomerated flux by a vibration system, ensuring consistency of the flux throughout the welding wire. After this process is complete, the wire is then annealed, drawn down to final diameter and put through a copper sheath coating process. The end result is a completely sealed flux cored wire, with extreme resistance to moisture absorption, both when in storage and also when in use.

### SEAMLESS TECHNOLOGY

1. Strip material
2. Manufacturing tube from solid strip using HF welding
3. Recrystallisation annealing and calibration to filling diameter
4. Manufacturing agglomerated flux and filling of the tube by vibration
5. Pre-drawing and annealing of tube
6. Drawing to final dimension and copper coating
7. Spooling of wire

### SEAMED FLUX CORED WIRE

Labels: SEAM, STEEL CASING, FLUX

### SEAMLESS FLUX CORED WIRE

Labels: COPPER COATING, FLUX, STEEL TUBE

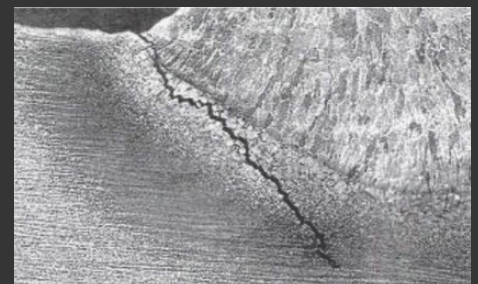
### Features and Benefits of Seamless Cored Wired

- Very low content of diffusible hydrogen
- AWS H4/EN ISO HS Classifications
- No moisture absorption during handling and storage
- Reduced tendency to hydrogen induced weld cracking
- Excellent wire feeding even at high speeds
- Does not require knurled rollers
- Copper coated to optimise conductivity
- Excellent operator appeal featuring single parameter all positional capabilities

## What is Hydrogen Induced Cracking (HIC)?

Hydrogen Induced Cracking (HIC) is a common type of weld failure, caused by the introduction of hydrogen or moisture into the weld material. The transfer of the hydrogen is normally through the flux component of the welding wire or welding electrode.

HIC does not always occur immediately after the weld process is complete, often it will occur once the weld has returned to ambient temperature. The effect of HIC is normally a costly rework procedure. This will consist of either grinding back or gouging out the faulty weld, then re-doing the welding process.



# THE BETAWELD<sup>®</sup> SL SERIES RANGE



The SL Series is a European range of seamless cored wires, manufactured to the highest quality standards found in the welding industry today. Including the SL-71 wire, now the most cost effective seamless cored wire on the market today. These wires have the ability to revolutionise your welding process in many ways. Firstly, the ability to limit weld cracking due to their extreme low hydrogen levels. Secondly, the advantage of being able to weld out of position with minimal adjustment to our weld parameters. Thirdly, their excellent operator appeal due to their outstanding performance, smooth running and excellent out of position capabilities.

## FLUX CORED SEAMLESS WIRES

Available in 1.2mm & 1.6mm  
including bulk options



### SL-71T

BetaWeld SL-71T is a seamless copper coated rutile flux cored wire for gas shielded metal arc welding of unalloyed steels for operating temperatures from -20°C to 450°C. It is an ideal solution for positional welding of C-Mn steel for infrastructure, shipbuilding and general fabrications.

Can be applied in all positions with only one parameter setting. Preferably use under mixed gas, the use of CO<sup>2</sup> is possible.

### SL-71TX

BetaWeld SL-71TX is a seamless copper coated rutile flux cored with an enhanced degree of fill. It features outstanding welding properties and -40°C low temperature mechanicals.

Can be applied in all positions with only one parameter setting. The enhanced degree of filling results in much higher current carrying capacity & deposition rate, allowing increased welding speeds to be used which results in time and cost saving.

### SL-81T

BetaWeld SL-81T is a seamless copper coated rutile flux cored wire for gas shielded metal arc welding of unalloyed steels for operating temperatures from -40°C to 450°C. The enhanced degree of filling results in much higher current carrying capacity & deposition rate.

It can be applied in all positions with only one parameter setting. The weld metal produced features excellent mechanical properties & hydrogen content of <5ml per 100g deposited weld metal. To be used with mixed gas.

## METAL CORED SEAMLESS WIRE



### SL-70C

BetaWeld SL-70C is a seamless metal cored copper coated wire for with outstanding welding properties in short arc and spray arc ranges resulting in a slag free weld metal. Almost spatter-free when welding in the spray arc range with good re-striking even with a cold wire tip which makes this wire suitable for robotic applications.

Characteristics include good side wall fusion, smooth and finely rippled welds without undercut into the base metal.

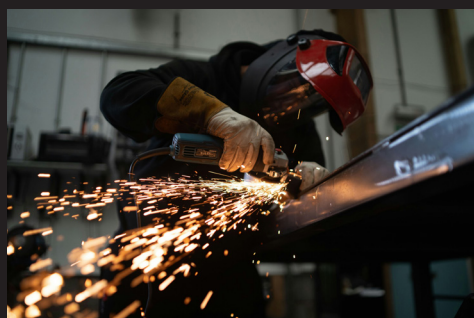
## CONFORMANCE & APPROVALS

CONFORMANCE	SL-71T	SL71-TX	SL-81T	SL-70C
AWS	AWS A5.20: E71T-1C-H4	AWS A5.20: E71T-1M-JH4	AWS A5.29: E81T1-Ni1M-J-H4	AWS A5.18: E70C-6M H4
	AWS A5.20: E71T-1M-JH4	AWS A5.36: E71T1-M214-CS1-H4	AWS A5.36: E81T12-M21A2-Ni1-H4	AWS A5.36: E71T15-M21A4-CS1-H4
	AWS A5.36: E71T-C1A0-CS1-H4			
	AWS A5.36: E71T-M1A0-CS1-H4			
AS/NZS ISO	17632-B: T552T1-1CA-UH5	17632-B: T554T12-1MA-UH5	17632-B: T554T1-1 MA-N1-UH5	17632-B: T554T15-1MA-UH5
	17632-B: T552T1-1MA-UH5			
<b>APPROVALS</b>				
ABS				
DNV				
GL				
LRS				

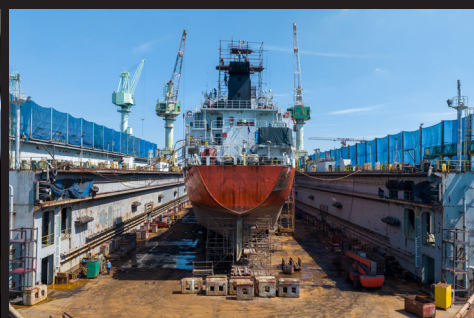
## INDUSTRIES SUITED TO SL WIRES



**Mining**



**Engineering**



**Ship Building**



**Manufacturing**



**Refineries**



**Offshore Oil & Gas**



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