

# TECHALLOY® 718

Nickel ▪ AWS ERNiFeCr-2

## KEY FEATURES

- This alloy can be age hardened to higher strengths
- Q2 Lot® - Certificate showing actual deposit composition available online

## WELDING POSITIONS

All

## SHIELDING GAS

MIG 75% Ar / 25% He

TIG 100% Ar

## CONFORMANCES

AWS A5.14M: 2011  
UNS

ERNiFeCr-2  
N07718

## TYPICAL APPLICATIONS

- Used for welding alloys 718, 706 and X-750
- Mainly used for welding high strength aircraft components and liquid rocket components involving cryogenic temperatures

## DIAMETERS / PACKAGING

Diameter in (mm)	MIG 33 lb (15 kg) Steel Spool	TIG 10 lb (4.5 kg) Tube 30 lb (13.6 kg) Master Carton	SAW 500 lb (227 kg) Speed-Feed® Reel
0.035 (0.9)	MG718035667		
0.045 (1.1)	MG718045667		
1/16 (1.6)	MG718062667		
3/32 (2.4)		TG718093638	SA718093692
1/8 (3.2)		TG718125638	

## WIRE COMPOSITION<sup>(1)</sup> - As Required per AWS A5.14M: 2011

	%C	%Mn	%Fe	%P	%S
<b>Requirements</b> AWS ERNiFeCr-2	0.08 max	0.35 max	Remainder	0.015 max	0.015 max
<b>Typical Performance<sup>(2)</sup></b> Techalloy® 718	0.05	0.10	20	0.01	0.001
	%Si	%Cu	%Ni	%Al	%Ti
<b>Requirements</b> AWS ERNiFeCr-2	0.35 max	0.30 max	50.0 - 55.0	0.20 - 0.80	0.65 - 1.15
<b>Typical Performance<sup>(2)</sup></b> Techalloy® 718	0.06	0.01	53	0.45	1.0
	%Cr	%Nb + Ta	%Mo	%Other	
<b>Requirements</b> AWS ERNiFeCr-2	17.0 - 21.0	4.75 - 5.50	2.80 - 3.30	0.50 max	
<b>Typical Performance<sup>(2)</sup></b> Techalloy® 718	17.4	5.0	3.0	<0.50	

## TYPICAL OPERATING PROCEDURES

Process	Diameter in (mm)	Voltage (volts)	Amperage	Gas
MIG	0.035 (0.9)	26-29	150-190	75% Argon / 25% Helium
	0.045 (1.1)	28-32	180-220	
	1/16 (1.6)	29-33	200-250	

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>See test results disclaimer on pg. 13.  
Safety Data Sheets (SDS) are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.com)*

#### **TEST RESULTS**

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld 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. 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 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.

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Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

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