

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⁽¹⁾ - As Required per AWS A5.14M: 2011

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

⁽¹⁾Typical all weld metal. ⁽²⁾See test results disclaimer on pg. 13.
Safety Data Sheets (SDS) are available on our website at www.lincolnelectric.com

Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at 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.

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.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue ■ Cleveland, OH ■ 44117-1199 ■ U.S.A.
Phone: +1.216.481.8100 ■ www.lincolnelectric.com

