

2NI

Low Alloy Steel ■ AWS ER80S-Ni2

KEY FEATURES

- Formulated to match the characteristics of weathering steel
- Developed for superior fracture toughness in as-welded joints in temperatures in the -60°C (-76°F) region

WELDING POSITIONS

All

SHIELDING GAS

100% Argon

CONFORMANCES

AWS 5.28

ER80S-Ni2

TYPICAL APPLICATIONS

- Storage Tanks
- Process Plants
- Pipework

DIAMETERS / PACKAGING

Diameter mm (in)	5 kg (11 lb) Tube
2.4 (3/32)	T2NI-24

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.28

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft-lbf)		Hardness HV
				@-60°C (-76°F)	@-101°C (-150°F)	
Requirements AWS ER80S-Ni2	470 min	550 min	24 min	27 min	-	-
Typical Performance⁽³⁾ As-Welded ⁽⁵⁾	452	556	35	200	34	185

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.28

	%C	%Mn	%Si	%S
Requirements AWS ER80S-Ni2	0.06-0.12	0.8-1.25	0.40-0.80	0.025 max
Typical Performance⁽³⁾	0.08	1	0.5	0.010
	%P	%Cu	%Ni	
Requirements AWS ER80S-Ni2	0.025 max	0.35 max	2.0-2.75	
Typical Performance⁽³⁾	0.010	0.10	2.5	

TYPICAL OPERATING PROCEDURES

Diameter mm (in)	Polarity	Amperage	Voltage
2.4 (3/32)	DC-	120A	14V

⁽¹⁾ Typical all weld metal ⁽²⁾ Measured with 0.2% offset ⁽³⁾ See test results disclaimer on next pg. ⁽⁴⁾ Preferred polarity is listed first. ⁽⁵⁾ Post Weld Heat Treated (PWHT) per AWS Specification

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m³ maximum exposure guideline for general welding fume.

BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

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.

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