Innershield® NR®-203 Ni C Plus-H

AWS E71T8-K2 • Low Alloy, All Position

Typical Applications

- Offshore welding applications
- Roundabout groove welds on heavy wall tubular construction
- Structural fabrication
- General plate fabrication including bridges
- Hull plate and stiffener welding on ships and barges

Key Features

- A good choice for weathering steels
- Handles poor fit-up in the vertical up position
- Produces a nickel alloyed weld deposit (1.0-2.0%)
- Capable of meeting H8 diffusible hydrogen requirements

Conformances

AWS A5.29/A5.29M: 1998	E71T8-K2
ASME SFA-5.29:	E71T8-K2

Welding Positions

All

DIAMETERS / PACKAGING

Diameter in (mm)	14 lb (6.4 kg) Coil 56 lb (25.4 kg) Hermetically Sealed Pail
5/64 (2.0)	ED033040

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.29/A5.29M: 1998*

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)
Requirements[4] - AWS E71T8-K2	400 (58) min.	480-620 (70-90)	20 min.	27 (20) min.
Typical Results[3]	435-520 (63-76)	530-600 (77-87)	25-30	98-161

DEPOSIT COMPOSITION[1] – *As Required per AWS A5.29/A5.29M: 1998*

	%C	%Mn	%Si	%S	%P	%Ni
Requirements - AWS E71T8-K2	0.15 max.	0.50-1.75	0.80 max.	0.03 max.	0.03 max.	1.00-2.00
Typical Results[3, 4]	0.04-0.07	0.74-0.85	0.06-0.09	≤0.01	≤0.01	1.00-1.21

	%Cr	%Mo	%V	%Al	Diffusible Hydrogen (mL/100g weld deposit)
Requirements - AWS E71T8-K2	0.15 max	0.35 max	0.05 max	1.8 max.	Not Specified
Typical Results[3, 4]	0.09-0.13	0.01-0.05	<0.01	0.65-1.12	5-8

TYPICAL OPERATING PROCEDURES

Diameter, Polarity	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)
5/64 in (2.0 mm), DC-	19 - 25 (3/4 - 1)	1.3 (50)	16-17	115	3.2 (1.5)	2.3 (1.0)	72
		1.8 (70)	17-18	170	4.5 (2.0)	3.3 (1.5)	73
		2.3 (90)	19-20	210	5.8 (2.6)	4.4 (2.0)	76
		2.8 (110)	20-21	245	7.0 (3.2)	5.5 (2.5)	79

[1]Typical all weld metal. [2]Measured with 0.2% offset. [3]See test results disclaimer below. [4]The strength and elongation properties reported were obtained from a 0.505 in (2.8 mm) tensile specimen artificially aged at 104°C (220°F) for 48 hours, as permitted by AWS A5.29-98. A naturally aged tensile specimen may take months to achieve the specified properties. The time required for the natural aging of weld deposits is dependent upon ambient conditions, weldment geometry, the metallurgical structure of the weld deposit and other factors.

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.

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