

Innershield® NR®-203MP

Mild Steel, All Position • AWS E71T-8-J

Key Features

- ▶ Designed to handle poor fit-up on heavy wall tubes and gaps up to 9.5 mm (3/8 in) with 6.4 mm (1/4 in) offset
- ▶ Fast freezing slag with excellent wash-in
- ▶ Root bead capability without back-up bars

Conformances

AWS A5.20/A5.20M: 2005	E71T-8-JH16
ASME SFA-A5.20:	E71T-8-JH16
ABS:	3YSA
Lloyd's Register:	3YS H15
DNV Grade:	III YMS H10
GL:	3YH15S
BV Grade:	SA3YMH
CWB/CSA W48-06:	E491T-8 H16

Typical Applications

- ▶ General plate fabrication, including bridge fabrication, hull plate and stiffener welding on ships and barges
- ▶ Storage tanks
- ▶ Structural welding
- ▶ Offshore welding in TKY joints

Welding Positions

All

Innershield® NR®-203MP

(AWS E71T-8-J)

DIAMETERS / PACKAGING

Diameter in (mm)	14 lb (6.4 kg) Coil 56 lb (25.4 kg) Master Carton	25 lb (11.3 kg) Steel Spool
0.068 (1.7) 5/64 (2.0)	ED021604	ED030640

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Hardness Rockwell B	Charpy V-Notch J (ft•lbf)	
					@ -29°C (-20°F)	@ -40°C (-40°F)
Requirements - AWS E71T-8-J	400 (58) min.	480-655 (70-95)	22 min.	–	Not Specified	27 (20) min.
Typical Results ⁽³⁾	415-440 (60-64)	510-545 (74-79)	29-33	82-87	75-203 (55-150)	68-224 (50-165)

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.20/A5.20M: 2005

	%C	%Mn	%Si	%S	%P	%Al
Requirements - AWS E71T-8-J	0.30 max.	1.75 max.	0.60 max.	0.03 max.	0.03 max.	1.8 max.
Typical Results ⁽³⁾	0.04-0.07	1.35-1.47	0.22-0.32	≤0.01	≤0.01	0.8-1.0

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 (%)
0.068 in (1.7 mm), DC-	25 (1)	1.8 (70)	16-17	145	1.5 (3.3)	1.0 (2.3)	69
		2.3 (90)	18-19	180	1.9 (4.2)	1.5 (3.2)	76
		3.0 (120)	20-21	225	2.5 (5.6)	2.0 (4.3)	76
		3.5 (140)	21-22	255	2.9 (6.4)	2.2 (4.8)	75
		3.8 (150)	23-24	265	3.1 (6.8)	2.3 (5.1)	75
5/64 in (2.0 mm), DC-	25 (1)	1.3 (50)	16-17	130	1.4 (3.1)	0.9 (1.9)	61
		1.8 (70)	18-19	180	2.0 (4.3)	1.3 (2.9)	67
		2.3 (90)	19-20	220	2.5 (5.6)	1.9 (4.2)	75
		2.8 (110)	20-21	260	3.1 (6.8)	2.4 (5.3)	77
		3.0 (120)	21-22	280	3.4 (7.4)	2.7 (5.9)	79
		3.5 (140)	22-23	310	3.9 (8.7)	3.1 (6.8)	79

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer below.

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.