

# Innershield® NR-211-MP



Innershield® NR-211-MP is an easy-to-use, versatile, general purpose wire suitable for welding in all positions without the need for procedural change on thin plate. Suitable for bare and coated (galvanized etc.) steels of thickness in the range of 7.9 mm (5/16 in.) to 12.7 mm (1/2 in.). Not suitable for applications requiring good Charpy V-notch properties. Consistent arc characteristics, low spatter and excellent bead appearance continue to reinforce “211-MP”s’ position as trusted, high quality and reliable general purpose wire.

## CONFORMANCE

AWS A5.20: E71T-11

ASME SFA-5.20 E71T-11

## TYPICAL APPLICATIONS

- 3 o'clock welding positions
- Welding application requiring copper back-up
- Sheet or thin gauge metal
- Propane cylinders
- Robotics and hard automation

## WELDING POSITIONS



## KEY FEATURES

- Versatile application use – All position welding capability for a wide range of base material thickness.
- Low spatter – High operator appeal and good bead appearance.
- Easy slag removal – Higher productivity for multiple pass welding.
- Fast freezing characteristics – Accommodates poor fit up.

**Innershield® NR-211-MP****DIAMETERS / PACKAGING**

Diameter (mm)	Package Type (kg)	Pallet Weight (kg)
1.2	15kg Spool	1,080
1.2	5kg Spool	560
1.7	24kg Carton (4 × 6 kg Coil)	864
2.0	24kg Carton (4 × 6 kg Coil)	864

**MECHANICAL PROPERTIES<sup>(1)</sup> - As required per AWS A5.20M**

	Yield Strength (Mpa)	Tensile Strength (Mpa)	Elongation (%)
<b>AWS Requirements E71T-11</b>	390Min.	490-670	20Min.
<b>Typical Values</b>	440	615	22.5

<sup>(1)</sup> The strength and elongation properties reported were obtained from a .505" tensile specimen artificially aged at 220°F (104°C) for 48 hours, as permitted by AWS A5.20-95. A naturally aged tensile specimen may take months to achieve the specified properties. See AWS A5.20-95, paragraph A8.3. 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.

**CHEMICAL COMPOSITION - As Required Per AWS A5.20/A5.20M**

	C	Mn	Si	S	P	Al
<b>AWS Requirements E71T-11 Max.</b>	0.30	1.75	0.60	0.03	0.03	1.8
<b>Typical Values</b>	0.26	0.44	0.27	0.005	0.012	1.7

**TYPICAL OPERATING PROCEDURES**

Diameter Polarity CTWD	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 (%)
1.2mm	1.8 (70)	15-16	120	0.7 (1.6)	0.5 (1.1)	69
DC-	2.3 (90)	16-17	140	1.0 (2.2)	0.8 (1.7)	77
16mm	2.8 (110)	17-18	160	1.2 (2.7)	1.0 (2.3)	85
	3.3 (130)	18-19	170	1.5 (3.2)	1.2 (2.7)	84
1.7mm	1.0 (4.0)	15-16	125	1.0 (2.1)	0.8 (1.7)	81
DC-	1.9 (75)	18-19	190	1.8 (4.0)	1.5 (3.4)	85
19-32mm	3.3 (130)	20-21	270	3.2 (7.0)	2.8 (6.1)	88
	4.4 (175)	23-24	300	4.3 (9.4)	3.8 (8.4)	89
2.0mm	1.3 (50)	16-17	180	1.6 (3.5)	1.3 (2.9)	83
DC-	1.9 (75)	18-19	235	2.4 (5.3)	2.0 (4.5)	85
19-32mm	3.0 (120)	20-21	290	3.8 (8.4)	3.4 (7.4)	88
	4.1 (160)	22-23	325	5.1 (11.2)	4.5 (10.0)	89

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