

# Innershield NR-208-H

## Conformances

AWS A5.29/A5.29M: 2005 E91T8-G-H8  
 ASME SFA-A5.29: E91T8-G-H8

## Welding Positions

All, except vertical up

## Key Features

- ▶ Designed to create high strength weld deposits
- ▶ Recommended for API grade X80
- ▶ High deposition rates

## Typical Applications

- ▶ Standard cross-country pipelines
- ▶ Undermatched X80 grade pipe

## DIAMETERS / PACKAGING

Diameter in (mm)	14 lb (6.4 kg) Coil 56 lb (25.4 kg) Hermetically Sealed Pail
5/64 (2.0)	ED023366

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.29/A5.29M: 2005

	Yield Strength <sup>(2)</sup> MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Hardness Rockwell B	Charpy V-Notch J (ft•lbf) @ -29°C (-20°F)
Requirements - AWS E91T8-G-H8	540 (78) min.	620-760 (90-110)	17 min.	–	Not Specified
Typical Results <sup>(3)</sup> - As-Welded	555-600 (81-87)	630-670 (91-97)	24-27	91-95	54-129 (40-95)

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.29/A5.29M: 2005

	%C	%Mn	%Si	%S	%P	%Ni <sup>(4)</sup>
Requirements - AWS E91T8-G-H8	Not Specified	0.50 min.	1.00 max.	0.030 max.	0.030 max.	0.50 min.
Typical Results <sup>(3)</sup>	0.04-0.07	1.48-2.02	0.11-0.31	c0.003	0.004-0.010	0.71-0.98
	%Cr <sup>(4)</sup>	%Mo <sup>(4)</sup>	%V <sup>(4)</sup>	%Al <sup>(4)</sup>	Diffusible Hydrogen (mL/100g weld metal)	
Requirements - AWS E91T8-G-H8	0.30 min.	0.20 max.	0.10 min.	1.8 min.	8.0 max.	
Typical Results <sup>(3)</sup>	0.02-0.03	c0.04	c0.01	0.9-1.2	c8	

## 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-	25 (1)	1.7 (70)	16-17	195	1.8 (4.0)	1.4 (3.2)	81
		2.0 (80)	17-18	220	2.1 (4.6)	1.7 (3.9)	84
		2.2 (90)	18-19	235	2.5 (5.4)	2.0 (4.5)	84
		2.7 (110)	19-20	270	2.9 (6.5)	2.4 (5.5)	85
		3.3 (130)	19-20	295	3.5 (7.6)	2.9 (6.5)	85

<sup>(1)</sup>Typical all weld metal. <sup>(2)</sup>Measured with 0.2% offset. <sup>(3)</sup>See test results disclaimer below. <sup>(4)</sup>In order to meet the alloy requirements of the G group, the weld deposit needs to have the minimum, as specified in the table, of only one of the elements marked.