

Shield-Arc® 90

AWS E9010-G • Low Alloy, Cellulosic, Pipe

Conformances

AWS A5.5/A5.5M: 2006	E9010-G
ASME SFA-A5.5:	E9010-G

Welding Positions

All

Key Features

- ▶ Light slag for minimal arc interference
- ▶ Deep penetration
- ▶ Clean, visible weld puddle
- ▶ Superior puddle control

Typical Applications

- ▶ Hot pass welding of up to X80 grade pipe, when followed by low hydrogen fill and cap
- ▶ API 5L X70 through X80 grade pipe
- ▶ Cross country pipe

DIAMETERS / PACKAGING

Diameter mm (in)	Length in (mm)	50 lb (22.7 kg) Easy Open Can
3.2 (1/8)	14 (350)	EDS01693
4.0 (5/32)	14 (350)	EDS01694
5.0 (3/16)	14 (350)	EDS01695

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.5/A5.5M: 2006

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Charpy V-Notch J (ft•lbf)	
				@ -29°C (-20°F)	@ -46°C (-50°F)
Requirements - AWS E9010-G	530 (77) min.	620 (90) min.	17 min.	Not Specified	Not Specified
Typical Results ⁽³⁾ - As-Welded	530-605 (77-88)	620-690 (90-100)	17-29	45-94 (33-69)	28-62 (21-46)

DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.5/A5.5M: 2006

	%C	%Mn	%Si	%P	%S
Requirements ⁽⁴⁾ - AWS E9010-G	Not Specified	1.00 min.	0.80 min.	0.03 max.	0.03 max.
Typical Results ⁽³⁾	0.13-0.18	0.55-0.79	0.08-0.22	0.01-0.02	≤ 0.01
	%Ni	%Cr	%Mo	%V	
Requirements - AWS E9010-G	0.50 min.	0.30 min.	0.20 min.	0.10 min.	
Typical Results ⁽³⁾	0.66-0.77	0.01-0.06	0.43-0.70	≤ 0.01	

TYPICAL OPERATING PROCEDURES

Polarity	Current (Amps)		
	3.2 mm (1/8 in)	4.0 mm (5/32 in)	4.8 mm (3/16 in)
DC+	75-130	80-185	140-225

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer below. ⁽⁴⁾In order to meet the alloy requirements of the "G" designation, the undiluted weld metal shall have the minimum of at least one of the elements listed.

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

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