Shield-Arc® HYP+

Low Alloy, Cellulosic, Pipe • AWS E7010-P1

Key Features

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

Typical Applications

- Root pass welding of up to X80 grade pipe
- Hot, fill and cap pass of up to X65 grade pipe
- Vertical down welding

Conformances

AWS A5.5/A5.5M: 2006	E7010-P1, E7010-G
ASME SFA-A5.5:	E7010-P1, E7010-G
ABS:	E7010-P1
CWB/CSA W48-06:	E4910-P1
TUV:	DIN EN ISO 2560-A:E

Welding Positions

All

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	50 lb (22.7 kg) Easy Open Can
1/8 (3.2)	14 (350)	ED029511
5/32 (4.0)	14 (350)	ED029513
3/16 (4.8)	14 (350)	ED029509

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)
Requirements - AWS E7010-P1	415 (60) min.	490 (70) min.	22 min.	27 (20) min.
Typical Results[3] - As-Welded	435-525 (63-76)	525-635 (76-92)	22-28	27-56 (20-41)

DEPOSIT COMPOSITION[1] – *As Required per AWS A5.5/A5.5M: 2006*

	%C	%Mn	%Si	%P	%S
Requirements - AWS E7010-P1	0.20 max.	1.20 max.	0.60 max.	0.03 max.	0.03 max.
Typical Results[3]	0.13-0.17	0.49-0.63	0.08-0.18	≤ 0.01	≤ 0.01
	%Ni	**%Cr**	**%Mo**	**%V**	
Requirements - AWS E7010-P1	1.00 max.	0.30 max.	0.50 max.	0.50 max.	
Typical Results[3]	0.01-0.02	0.02	0.27-0.31	< 0.01	

TYPICAL OPERATING PROCEDURES

	Current (Amps)		
Polarity	1/8 in (3.2 mm)	5/32 in (4.0 mm)	3/16 in (4.8 mm)
DC+	75-130	90-185	140-225

[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.

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