

PRIMACORE® LW-81Ni1



PRIMACORE® LW-81Ni1 is an all position gas shielded 1% Nickel, micro alloyed flux-cored welding wire. It is designed specifically for applications where exceptional low temperature impact properties are required.

CONFORMANCE

JIS Z 3313: T554T1-1CA-N2-H10
ANSI/AWS A5.29 / ASME SFA-5.29: E81T1-Ni1J-C
AWS A5.36 E81T1-C1A4-Ni1

APPROVALS

LR, CCS, ABS, DNV-GL

SHIELDING GAS

100% CO₂ shielding gas.
Flowrate: 40-45 CFH or 20 litres/min

DIAMETERS / PACKAGING

Diameter (mm)	Spool/Drum Weight (kg)	Pallet Weight (kg)	Product No.
1.2	15	1,080	COPLW81E21
1.4	15	1,080	COPLW81E41
1.6	15	1,080	COPLW81E61
1.2	225	900	COPLW81E28
1.4	200	800	COPLW81E48
1.6	200	800	COPLW81E68

Cone + Conduit Adapter Part No.: QTM-00003

WELDING POSITIONS



DIFFUSIBLE HYDROGEN

Diffusible hydrogen conforms to relevant agency approval designations.

ADVANTAGE LINCOLN

- Exceptional mechanical properties.
- Superior low temperature impact properties and CTOD values.
- Outstanding weldability, low spatter and good bead appearance.
- Suitable for replacing E8018-C3 stick electrode and for welding A588 weathering steel where colour match is required.
- Designed for offshore drilling rig construction, weathering steels, petrochemical and similar applications.
- Manufactured under a quality system certified to ISO 9001 and JIS requirements.

PACKAGING TYPE

- All spools of wire are level layer wound on plastic spools.
- The spools are then vacuum-packed in moisture proof, polyfoil bags.
- The spools of wire are boxed and securely stacked on wooden pallets with plastic shrink-wrap.

PRIMACORE[®] LW-81Ni1

ALL WELD METAL MECHANICAL PROPERTIES -- TYPICAL

	Yield Strength [Mpa]	Tensile Strength [Mpa]	Elongation [%]	Reduction of Area [%]	Charpy V-Notch (J) @-29°C @-40°C	
Requirements AWS A5.29: E81T1-NiJ-C	470min	550-690	19min.	-	27 min. ^[1]	27 min. ^[2]
Test Results* (with 100% CO ₂)	527	592	28	75	167 average [163, 171, 168]	152 average [146, 152, 159]

*1.2mm diameter wire, DC+. Typical all weld metal in the as welded condition. [1] For E81T1-Ni1 only. [2] For E81T1-NiJ only.

*Test results and product properties listed herein for gas shielded wires have been developed with the shielding gas stated.

A change of shielding gas may cause significant changes in product performance and weld metal properties.

Lincoln Electric does not warrant these products for use with shielding gases other than those listed in the test data.

WELD DEPOSITE CHEMICAL COMPOSITIONS (Wt-%) -- TYPICAL

	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements AWS A5.29 E81T1-NiJ-C Max.	0.12	1.50	0.80	0.03	0.03	0.80	0.15	0.35	0.05
Test results* (with 100% CO ₂)	0.03	1.31	0.35	<0.01	0.01	0.85	0.03	<0.01	0.02

CTOD TEST RESULTS (per ASTM E1290)

TEST temperature	CTOD Values (mm)			CTOD Average (mm)
-10°C	0.399	0.544	0.372	0.438
-20°C	0.279	0.198	0.474	0.317

TYPICAL OPERATING PROCEDURES

Diameter Polarity CTWD mm (inches)	Wire Feed Speed in/min (cm/min)	Voltage [Volts]	Approx. Current [Amps]	Melt-Off Rate [Kg/hr]	Deposition Rate [Kg/hr]
1.2mm PRIMACORE [®] LW-81Ni1 DC+ 20(3/4)	175 [445]	21-24	130	1.8	1.5
	225 [572]	23-25	165	2.4	1.9
	275 [699]	25-27	185	2.9	2.4
	325 [826]	26-29	200	3.4	2.9
	375 [953]	27-29	230	4.0	3.3
	425 [1,080]	28-30	250	4.5	3.7
	475 [1,207]	29-31	270	5.0	4.2
	600 [1,524]	31-33	310	6.2	5.3
1.4mm PRIMACORE [®] LW-81Ni1 DC+ 25(63/64)	150 [381]	23-25	150	2.0	1.7
	200 [508]	24-26	190	2.6	2.2
	250 [635]	25-27	225	3.3	2.8
	300 [762]	26-28	240	4.0	3.6
	350 [889]	27-29	275	4.6	3.7
	400 [1,016]	28-30	300	5.3	4.5
	450 [1,143]	29-31	325	6.0	5.1
1.6mm PRIMACORE [®] LW-81Ni1 DC+ 25(63/64)	130 [330]	22-25	180	2.6	2.2
	150 [381]	23-26	210	3.0	2.5
	200 [508]	24-27	265	3.9	3.2
	250 [635]	26-29	305	4.9	4.1
	300 [762]	28-31	345	5.8	4.9

Customer Assistance Policy

The business of 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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customers particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has not been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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.cn for any updated information.

Authorized Distributor:

THE SHANGHAI LINCOLN ELECTRIC CO., LTD.

No.195, Lane 5008, Hu Tai Road, Shanghai China 201907

TEL:86-21-6673 4530

FAX:86-21-6602 6621

www.lincolnelectric.com.cn

LINCOLN[®]
ELECTRIC