

## Select 820-Ni1

### Description:

- A low alloy steel, gas shielded, flux cored electrode for all position welding
- Intended for use with 100% CO<sub>2</sub> or blends of 75-80% Ar/balance CO<sub>2</sub> shielding gases
- Designed with 1% nickel and microalloying to produce welds with enhanced CVN toughness
- The arc transfer is soft; it melts onto the puddle in a small to medium droplet mode
- Typically used to weld steels such as ASTM A203, Gr A, and A352, Gr LC1 and LC2
- This product is used in offshore platform construction, welding mining machinery, and bridge construction

### Classifications & Approvals:

- E81T1-Ni1CJ-H4, E81T1-Ni1MJ-H4 per AWS A5.29, ASME SFA-5.29
- E81T1-C1A4-Ni1, E81T1-M21A4-Ni1 per AWS A5.36, ASME SFA-5.36
- MIL-81T1-Ni1C and MIL-81T1-Ni1M per MIL-E-24403/1
- ABS 4YSA, DNV 4 YMS, Lloyds 3S, 3YS - (All with 100% CO<sub>2</sub> and 75% Ar/25% CO<sub>2</sub>)
- CWB E551T1-C1A4-Ni1H4 (E551T1-Ni1C-JH4), E551T1-M21A4-Ni1H4 (E551T1-1Ni1M-JH4)

### Typical Mechanical Properties:

	<u>100% CO<sub>2</sub></u>	<u>75-80% Ar/balance CO<sub>2</sub></u>
Ultimate Tensile Strength (psi)	86,400	89,000
Yield Strength (psi)	73,700	80,000
Percent Elongation	27	24
CVN (ft-lbf) @-40°F	90	94
@-50°F	50	46

### Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Ni</u>
100% CO <sub>2</sub>	.03	1.15	.41	.008	.008	0.91
75-80% Ar/balance CO <sub>2</sub>	.03	1.29	.50	.009	.009	0.90

### Recommended Welding Parameters\*:

<u>Diameter</u>	<u>Position</u>	<u>Optimum</u>			<u>Range</u>		<u>CTWD</u>
		<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>Amperage</u>	<u>Voltage</u>	
1/16"	Flat	300	275	29	180-330	22-34	1-1 ¼"
	Overhead	225	160	26	150-310	22-28	1-1 ¼"
	Vertical up	225	160	25	150-280	22-27	1-1 ¼"
.052"	Flat	300	360	28	100-330	19-32	1-1 ¼"
	Overhead	225	245	26	150-310	21-28	1-1 ¼"
	Vertical up	225	245	25	150-280	21-27	1-1 ¼"
.045"	Flat	250	282	28	100-300	21-32	¾-1"
	Overhead	200	265	26	150-280	21-29	¾-1"
	Vertical up	200	265	25	100-230	21-28	¾-1"

\* With CO<sub>2</sub> shielding gas. For 75-80% Ar/balance CO<sub>2</sub> decrease voltage by 1 to 1.5 volts.

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Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. Select-Arc disclaims any warranty of merchantability for any particular purpose with respect to its products.