

## Select 85-Ni3

### Description:

**Select 85-Ni3** is a low alloy steel, gas-shielded, flux cored electrode for single and multiple pass welding of certain HSLA steels. This electrode has a basic slag system and is capable of horizontal fillet and flat position welding. It produces a weld deposit that contains about 3.5 % nickel to enhance low temperature toughness. The recommended shielding gas is argon with 20-25% CO<sub>2</sub>, at a suggested flow rate of 35-50 cfh and a minimum dew point of -40 degrees F.

### Classification:

- E80T5-Ni3M-H4 per AWS A5.29, ASME SFA 5.29

### Characteristics:

**Select 85-Ni3** is a flux cored electrode with a basic slag system, which provides excellent low temperature toughness and low diffusible hydrogen levels. Due to the nature of a basic slag, the arc transfer is globular and the bead profile is convex. Spatter levels will be higher than with T-1, rutile-type electrodes.

### Applications:

**Select 85-Ni3** is designed to weld 3% Ni steels that require a postweld stress relief, a minimum of 80,000 psi tensile strength and excellent low temperature toughness. Applications include shipbuilding and tanks used for gas storage.

### Typical Mechanical Properties (SR at 1150F for 1 hr.):

Ultimate Tensile Strength (psi)	90,000
Yield Strength (psi)	75,000
Percent Elongation	23
CVN (ft •lb f) @ -100° F	38

### Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Ni</u>
	.05	1.30	.20	.010	.010	3.60

(Typical Diffusible Hydrogen (per AWS A4.3) <3ml/100g of weld metal)

### Suggested Welding Parameters:

<u>Diameter</u>	<u>Optimum</u>			<u>Range</u>	
	<u>Amperage</u>	<u>Voltage</u>	<u>WFS</u>	<u>Amperage</u>	<u>Voltage</u>
.045"	250	27	380	120-320	22-30
.052"	250	28	350	170-340	26-34
1/16"	300	28	320	250-450	26-33
5/64"	370	28	250	280-500	26-33
3/32"	400	28	185	350-550	26-34

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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. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.