



Select 70S-3NC

Description:

Select 70S-3NC is a solid electrode, or "MIG" wire, intended for gas metal arc welding of carbon steels requiring a minimum yield strength of 50,000 psi. This electrode is free of copper coating, hence the "NC" designator signifying "no copper". **Select 70S-3NC** contains moderate levels of manganese and silicon for deoxidation, therefore, it is recommended for use on steels which are free of contaminants, oils, mill scale, and rust. This electrode can tolerate no more than minor amounts of mill scale, and none of other contaminants. Although there is no copper coating, feedability is smooth and reliable; the arc transfer rivals the very best in the solid wire market. In addition, there is no copper to vaporize into the welding fume other than trace amounts within the wire itself. Recommended shielding gases are 75-95% argon/balance carbon dioxide, 95-98% argon/balance oxygen, and 100% carbon dioxide.

Classification:

- ER70S-3 per AWS/ANSI A5.18, SFA 5.18

Characteristics:

Select 70S-3NC is a copper-free, solid wire, "MIG", electrode which exhibits excellent feeding capability and superb welder appeal. The absence of a copper coating does nothing to diminish the smooth feeding and welding characteristics of this product. The arc transfer is stable and consistent; the feedability is virtually trouble free. This is a truly premium electrode for welding carbon steels in the yield strength range of 55,000-75,000 psi. **Select 70S-3NC** will feed dependably over long conduit distances and will perform well at high wire feed speeds. All position welding maybe accomplished using the short circuit (short arc) or pulse arc transfer.

Applications:

Select 70S-3NC is ideally suited for welding on carbon steels that are clean or contain only light mill scale. This electrode is versatile enough for welding sheet steel or multi-pass on plate steel in the yield strength range of 55,000-75,000 psi. Typical applications would be pipe welding, structural, general fabrication, and steel buildings. It is also a good selection for those applications where copper coating is a concern.

Typical Wire Composition:

Shielding Gas	C	Mn	Si	P	S	Cu
CO ₂	.08	1.20	.54	.008	.010	.04

Typical Mechanical Properties:

UTS(psi)	YS(psi)	% Elong.	CVN(ft•lb f)@0°F
75,900	61,200	25	77

Welding Parameters:

Typical Spray Arc Parameters (Argon-2% O₂):

Diam.(in.)	Amperage	Optimum		Amperage	Range		ESO
		WFS	Voltage		WFS	Voltage	
.035	200	475	26	180-240	400-560	24-27	½"-¾"
.045	300	350	27	260-335	300-500	25-30	½"-1"
.052	325	310	28	280-400	270-400	26-32	½"-1"
1/16	340	200	28	290-400	175-280	26-37	½"-1"

Optimum Short Arc Parameters (Argon-25% CO₂):

	Amperage	WFS	Voltage	ESO
.035	130	245	17	3/8"
.045	160	150	18	3/8"
.052	165	140	18	3/8"

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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 or fitness for any particular purpose with respect to its products.