

Select 70S-3

Description:

Select 70S-3 is a copper coated, solid electrode intended for gas metal arc welding (GMAW), or "MIG" welding, as it is more commonly known. This carbon steel electrode should be used to weld steels with a yield strength range of 55,000 to 75,000 psi. A variety of shielding gases can be utilized; 100% CO₂, 75-95% Ar/balance CO₂, and 95-98% Ar/balance O₂. Recommended flow rate is 30-50cfh. **Select 70S-3** can be welded in single or multiple pass applications, on carbon steel plate and sheet metal.

Classification:

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

Characteristics:

Select 70S-3 is a premium solid electrode, or MIG wire, for gas metal arc welding a wide selection of carbon steels, such as sheet metal, plate, and automotive components. This electrode has moderate levels of manganese and silicon, which are adequate for most applications on clean or uncoated materials. Light millscale can be tolerated, but should be avoided if possible. Feedability and welding characteristics are excellent, and rival the best products in the marketplace. The performance of this wire ranks with the very best in the industry and is definitely second to none that are available. All position welding maybe accomplished using the short circuit (short arc) or pulse arc transfer.

Applications:

Select 70S-3 is well suited for welding pipe, pressure vessels, steel buildings, and sheet steel. The varied sheet steel applications include ventilation ductwork, air conditioner compressors and frames, steel furniture and many others. Care should be taken to avoid welding on steel which has oil, mill scale, or other contaminants.

Typical Wire Composition:

Shielding Gas	C	Mn	Si	P	S	Cu
CO ₂	.08	1.18	.53	.009	.009	.18

Typical Mechanical Properties:

UTS(psi)	YS(psi)	% Elong	CVN(ft•lb/f) @ 0°F
77,000	64,100	29	66

Welding Parameters:

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

Diam.(in.)	Optimum			Amperage	Range		ESO
	Amperage	WFS	Voltage		WFS	Voltage	
.035	200	475	26	180-240	400-560	24-27	1/2"-3/4"
.045	300	350	27	260-335	300-500	25-30	1/2"-1"
.052	325	310	28	280-400	270-400	26-32	1/2"-1"
1/16	340	200	28	290-400	175-280	26-37	1/2"-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.