

SelectAlloy 307-C

Description:

SelectAlloy 307-C is a composite, metal cored electrode for gas metal arc welding of stainless and certain types of other austenitic steels. This product may also be used to weld armor steels and ferritic stainless steels in specific applications. The composite nature of this metal cored electrode provides higher deposition rates and a faster travel speeds than those achieved by solid electrodes. **SelectAlloy 307-C** is intended to be used with shielding gas blends of argon/1-2% oxygen and argon/1-2% carbon dioxide. Suggested gas flow rates are 40-55 cfh, with recommended dew points of -40°F.

Classification:

- EC307 per AWS 5.22 (also per AWS A5.9:2006)

Characteristics:

SelectAlloy 307-C has all the attributes of a composite metal cored electrode when compared to the solid variety; stable arc transfer which transitions easily into spray, higher deposition rates, faster travel speeds, the ability to bridge gaps and poor fit up areas, and consistent deposit composition due to even distribution of core ingredients. This electrode is manufactured to very exacting standards, which ensures the highest levels of feedability, weldability, and metallurgical performance. The weld deposit is nearly fully austenitic and quite resistant to hot cracking when utilized correctly.

Applications:

SelectAlloy 307-C is an ideal selection for joining austenitic stainless to ferritic stainless or carbon steel, ferritic to ferritic stainless, or other dissimilar metals. It finds wide application in welding automotive exhaust systems. It is also well suited to weld armor plate, austenitic manganese steel, dissimilar steels and as a buttering layer prior to hardfacing.

Typical Mechanical Properties

	Ar-2%O ₂
Ultimate Tensile Strength (psi)	96,000
Yield Strength (psi)	60,000
Percent Elongation	39

Typical Weld Deposit Chemistry (wt%):

Shielding Gas	C	Cr	Ni	Mn	Mo	Si
98Ar/2O ₂	0.09	20.5	9.40	4.40	1.10	0.6
Ferrite Number (WRC, 1992) - 12						

Typical Welding Parameters (Ar-2%O₂)*:

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.035"	350	155	22	1/2-5/8	5.9
.035"	500	205	23	1/2-5/8	8.6
.035"	600	230	25	1/2-5/8	10.2
.035"	700	245	26	1/2-5/8	11.8
.045"	250	180	21	1/2-5/8	7.1
.045"	400	240	23	1/2-5/8	11.3
.045"	500	280	25	1/2-5/8	14.1
.045"	650	300	28	1/2-5/8	18.4
1/16"	150	190	24	3/4-1	7.7
1/16"	250	280	25	3/4-1	12.8
1/16"	350	385	26	3/4-1	17.9
1/16"	450	490	32	3/4-1	23.1

* Optimum conditions are in **boldface type**.

Rev 0 (03/13/2014)

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.