

Inweld 110S-1

Alloy ER110S-1

AWS A5.28

UNS Number: K21015



Description and Applications:

This filler metal deposits high-strength, very tough weld metal for critical applications. Originally developed for welding HY80 & HY100 steels for military applications, it is also used for a variety of structural applications where tensile strength requirements exceed 100 ksi (690 MPa), and excellent toughness is required to temperatures as low as - 60° F (-51° C). Mechanical properties obtained from weld deposits made with electrodes of this classification will vary depending on the heat input used.

Chemical Composition of ER110S-1

C	Mn	Si	P	S	Ni	Cr	Mo	V	Ti	Zr	Al	Cu ^e
0.09	1.40-1.80	0.20-0.55	0.010	0.010	1.90-2.60	0.50	0.25-0.55	0.04	0.10	0.10	0.10	0.25

Single values are maximum unless otherwise specified.

Total other elements: 0.50

Pre-heat, Interpass, and Postweld heat treatment temperatures.

Preheat & Interpass temp.: 275-325° F 135-165° C



Average Impact Strength (Minimum)

50 ft.lbf @ -60°F (68 J @ -51°C)

(As Welded)

Shielding Gas: Argon/2% O₂

Tensile Strength (min) psi: 110,000 psi

MPa: 760

Yield Strength (min) psi: 95,000 psi

MPa: 660

Elongation % (min) 15

^e: Copper due to any coating on the electrode or red plus the copper content of the filler metal itself, shall not exceed the stated limit.