

# Inweld 120S-1

Alloy ER120S-1

AWS A5.28

UNS Number: K21030



## 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 ER120S-1

C	Mn	Si	P	S	Ni	Cr	Mo	V	Ti	Zr	Al	Cu <sup>e</sup>
0.10	1.40-1.80	0.20-0.60	0.010	0.010	2.00-2.80	0.60	0.30-0.65	0.03	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% O<sub>2</sub>

Tensile Strength (min) psi: 120,000 psi

MPa: 830

Yield Strength (min) psi: 105,000 psi

MPa: 730

Elongation % (min) 14

<sup>e</sup>: 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.