

# ER80S-B2

ER80S-B2 is a low alloy, medium strength, steel suitable for use in Petrochemical, Power Generation and Chemical industries.

The chromium and molybdenum properties of this alloy suite hightemperature, high-corrosive and high-pressure environments.

Parts manufactured with ER80S-B2 have higher strength for static and dynamically loaded applications and is also suitable for high pressure parts applications as required in part manufacture for boilers, piping, pressure valves and heat exchanges.

## Wire Classification

AWS/ASME-SFA, A5.28, ER80S-B2

## Wire Diameter

1.2 mm

## Shielding Gas

Argon Mix

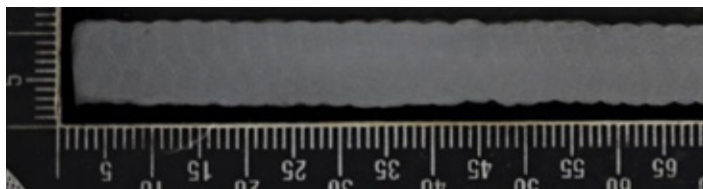
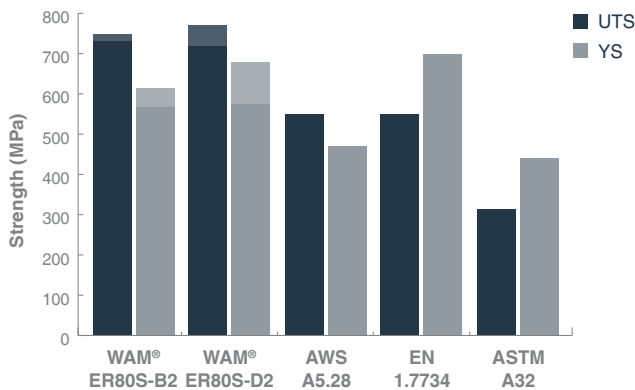
## Process

WAM® – DED-Arc

## Equivalent Designations

AWS ER49S-B2L (K20500), AWS E70C-B2L, E49C-B2L, W52130, AWS E80C-B2, E55C-B2, W52030, ASTMA217, EN 1.7336, EN 1.7338

## WAM® ER80S-B2 Tensile Strength Comparison



ER80S-B2 macro examination photo.

## Properties

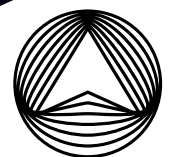
Composition	Amount %
Carbon	0.1
Manganese	0.48
Nickel	0.03
Molybdenum	0.44
Silicon	0.44
Copper	0.16
Chromium	1.30
Phosphorus	0.008
Sulfur	0.008

Mechanical	WAM® X & Y Typical	AWS Typical
Ultimate Tensile Strength (MPa)	731 - 748	≥ 550
0.2% Proof stress (MPa)	570 - 615	≥ 470
Reduction in area (%)	73 - 75	-
Elongation (%)	30 - 31	≥ 19
Condition	as built	
Classification	AWS A5.28	
Density (kg/m <sup>3</sup> )	7800	
Charpy Impact Test (J)	≥ 100 ambient	



ER80S-B2 showing top and mid thickness hardness survey locations.

WAM® Test Report Number(s) 180151AM-16, 180151AM-17. Mechanical property values for the 'as-deposited WAAM' values are based on the median value and repeatability testing. Deposited density can be lower than wire density. AWS data source: D20.1/D20.1M:2019 Specification for Fabrication of Metal Components Using Additive Manufacturing.



35 Woomera Avenue  
Edinburgh SA 5111 Australia  
info@aml3d.com | +61 8 8258 1658

www.aml3d.com

