

ERTi-2

ERTi-2 is an unalloyed, commercially pure titanium (CP-Ti) alloy known as Grade 2. It is composed of approximately 99.2% titanium, with small amounts of oxygen (O), hydrogen (H), iron (Fe), and other elements.

One of the critical advantages of ERTi-2 wire feedstock for ARCEMY® and WAM® is its outstanding corrosion resistance. It exhibits excellent resistance to a variety of corrosive environments, including seawater, chemical solutions, and oxidizing and reducing environments.

Wire Classification

AWS A5.16 ER-Ti-2

Wire Diameter

1.2 mm

Shielding Gas

Argon

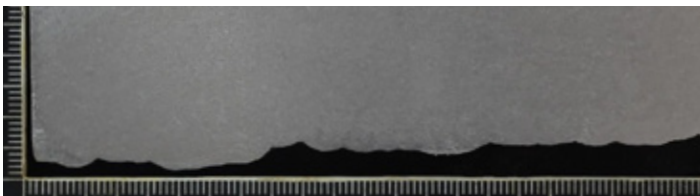
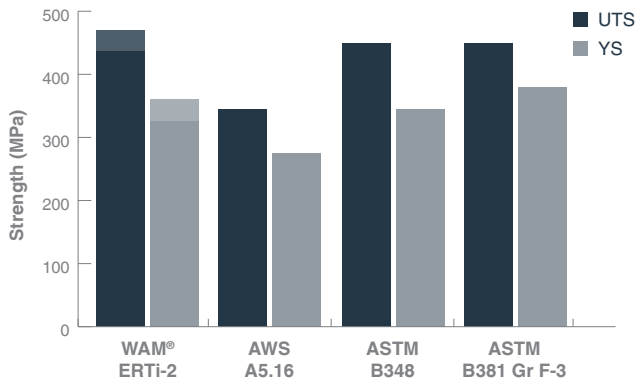
Process

WAM® – DED-Arc

Equivalent Designations

UNS R50400, UNS R50550, SAE 4900, T-9046 CP-2, T-81556, ASTM B265 Grade 3, ASTM B337 Grade 3, ASTM B338 Grade 3, ASTM B348 Grade 3, ASTM B367 Grade C-3, ASTM B381 Grade F-3, F 67 Grade 3, ASME SB-265 Grade 3, ASME SB-337 Grade 3, ASME SB-338 Grade 3, ASME SB-348 Grade 3, ASME SB-381 Grade F-3, DIN 3.7055.

WAM® Ti-2 Tensile Strength Comparison



ERTi-2 Macro examination.

WAM® Test Number 210014AM-48. 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.

Properties

Composition	Amount %
Iron	≤ 0.12
Carbon	≤ 0.03
Nitrogen	≤ 0.015
Hydrogen	≤ 0.008
Oxygen	0.08 - 0.16
Each	≤ 0.05
Total	≤ 0.20
Titanium	Rest

Mechanical	WAM® X & Z Typical	AWS Typical
Ultimate Tensile Strength (MPa)	440 - 470	395 - 540
0.2% Proof stress (MPa)	340 - 360	275
Reduction in area (%)	-	-
Elongation (%)	30 - 32	20
Condition	as built	
Classification	AWS A5.16	
Density (kg/m³)	4510	
Fatigue Limit (MPa / Cycles)	400 - 450 @10 ⁷	
Stress Analysis (mm) (Neutron Detection)	Comp. > 25	



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