

ISO 6848

Tungsteno-Zirconio WZ8 (EWZr-8)

Reference Standard: ISO 6848:2015 - Arc welding and cutting - Nonconsumable tungsten electrodes - Classification | AWS: A5.12/A5.12M (Designación EWZr-8) | ISO Color Code: Blanco

CHEMICAL COMPOSITION

Element	Tolerance (wt%)
Tungsten (W)	Balance
Zirconium Oxide (ZrO ₂)	0.7 - 0.9%
Carbon (C)	≤0.0030%
Nitrogen (N)	≤0.0020%
Sulfur (S)	≤0.0020%
Iron (Fe)	≤0.0030%
Calcium (Ca)	≤0.0020%
Silicon (Si)	≤0.0020%
Nickel (Ni)	≤0.0020%
Molybdenum (Mo)	≤0.0030%

TYPICAL PHYSICAL PROPERTIES

Property	Value	Unit
Density	18.00 - 19.25	g/cm ³
Hardness	400 - 500	HV
Melting Point	~3,410	°C
Thermal Conductivity (20°C)	~170	W/(m·K)
Thermal Expansion Coeff.	~4.5 × 10 ⁻⁶	/K
Electrical Resistivity (20°C)	~5.5	μΩ·cm
Electrical Conductivity	~30% IACS	Est.
Thermal Shock Resistance	Excellent	-

RECOMMENDED APPLICATIONS

- Resistance welding electrodes and inserts
- Cross-wire welding of copper and brass
- Resistance brazing
- High-temperature electrical contacts
- Components subject to severe thermal shock

KEY FEATURES

- Non-radioactive - alternativa segura a WTh20
- Higher recrystallization temp than pure W
- ZrO₂ stabilizes grain structure at high temp
- Lower erosion rate vs pure tungsten
- Does not alloy with non-ferrous metals

EQUIVALENT DESIGNATIONS

ISO 6848: WZ8

AWS A5.12: EWZr-8

Color ISO: Blanco

0.7-0.9% ZrO₂

APPLICATION NOTE

WZ8 is tungsten doped with zirconium oxide that improves grain stability and recrystallization resistance at high temperature. Density and hardness ranges reflect typical sintered material values. Thermal and electrical properties are reference values consistent with published technical literature (Midwest Tungsten, Plansee, AZoM).