

# TUNGSTEN ELECTRODES

## 2% THORIATED (RED) EWTh-2/WT20

*Principal Oxide: 1.7–2.2% Thorium Oxide*

Radioactive. Best for use in Direct Current (D/C) applications using transformer based constant current power sources. Best for use on non corroding steels, titanium alloys, nickel alloys, copper alloys. Good D/C arc starts and stability, medium erosion rate, medium amperage range, medium tendency to spitting.

## 0.8% ZIRCONIATED (WHITE) EWZr-8/WZ8

*Principal Oxide: 0.7–0.9% Zirconium Oxide*

Non-Radioactive. Best for use in Alternating Current (A/C) for aluminum alloys and magnesium alloys using inverter or transformer based constant current power sources. Balls well, handles higher amperage than pure tungsten with less pitting, better arc starts and arc stability than pure tungsten.

## 1.5% LANTHANATED (GOLD) EWLa-1.5/WL15

*Principal Oxide: 1.3–1.7% Lanthanum Oxide*

Non-Radioactive. Best for use in Direct Current (D/C) as an alternative to 2% Thoriated using inverter or transformer based constant current power sources. Best for non corroding steels, titanium alloys, nickel alloys, copper alloys. Best D/C arc starts and stability, low erosion rate, wide amperage range, no spitting.

## 2% CERIATED (GRAY) FORMERLY ORANGE EWCe-2/WC20

*Principal Oxide: 1.8–2.2% Cerium Oxide*

Non-Radioactive. Best for use in Alternating Current (A/C) or Direct Current (D/C) applications using inverter or transformer based constant current power sources. Good for low-alloyed steels, non corroding steels, aluminum alloys, magnesium alloys, titanium alloys, nickel alloys, copper alloys. Good ignition and re-ignition properties, long service life, excellent arc stability. Low erosion rate, best at low amperage range, no spitting, good D/C arc starts and stability.

## PURE (GREEN) EWP/WP

*Principal Oxide: None*

NON-RADIOACTIVE. Good for use in Alternating Current (A/C) for aluminum alloys and magnesium alloys in low to medium amperage applications using transformer based constant current power sources only. Balls easy, tends to spit at higher amperages. Used for non-critical welds only.

## 2% LANTHANATED (BLUE) EWLa-2/WL20

*Principal Oxide: 1.8–2.2% Lanthanum Oxide*







Non-Radioactive. Best general purpose electrode for both Alternating Current (A/C) or Direct Current (D/C) using inverter or transformer based constant current power sources. Good for low-alloyed steels, non corroding steels, aluminum alloys, magnesium alloys, titanium alloys, nickel alloys, copper alloys. Good arc starts and stability, medium to high amperage range, low erosion rate.

## LaYzr™ (CHARTREUSE) EWG

*Principal Oxides: 1.5% Lanthanum, 0.8% Yttrium Oxides, 0.8% Zirconium*

Non-Radioactive. Best for automated or robotic applications in Alternating Current (A/C) or Direct Current (D/C) due to low voltage tolerance (changes in tip to work piece distance) using inverter or transformer based constant current power sources. Good for low-alloyed steels, non corroding steels, aluminum alloys, magnesium alloys, titanium alloys, nickel alloys, copper alloys. Very stable tip geometry, runs cooler than 2% Thoriated with longer life, low to medium amperage range. Very best low amperage starts.

## Color Code and Alloying Elements for Various Tungsten Electrode Alloys

Designation		Chemical Composition Impurities ≤0.1%		TIP COLOR
ISO 6848	AWS A5.12	OXIDE ADDITIVE	TUNGSTEN	
WT20	EWTh-2	ThO <sub>2</sub> : 1.70–2.20%	≥97.30%	Red 
WP	EWP	~~~~~	≥99.95%	Green 
WL15	EWLa-1.5	LaO <sub>2</sub> : 1.30–1.70%	≥97.80%	Gold 
WC20	EWCe-2	CeO <sub>2</sub> : 1.80–2.20%	≥97.30%	Gray 
WL20	EWLa-2	La <sub>2</sub> O <sub>3</sub> : 1.80–2.20%	≥97.30%	Blue 
WZ8	EWZr-8	ZrO <sub>2</sub> : 0.70–0.90%	≥98.60%	White 
LaYzr	EWG	La <sub>2</sub> O <sub>3</sub> : 1.3–1.7%; ZrO <sub>2</sub> : 0.06–0.10%; Y <sub>2</sub> O <sub>3</sub> : 0.6–1.0%	≥98.34%	Chartreuse 