

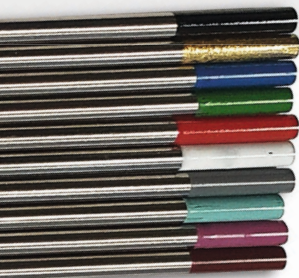


TIGZONE SERIES

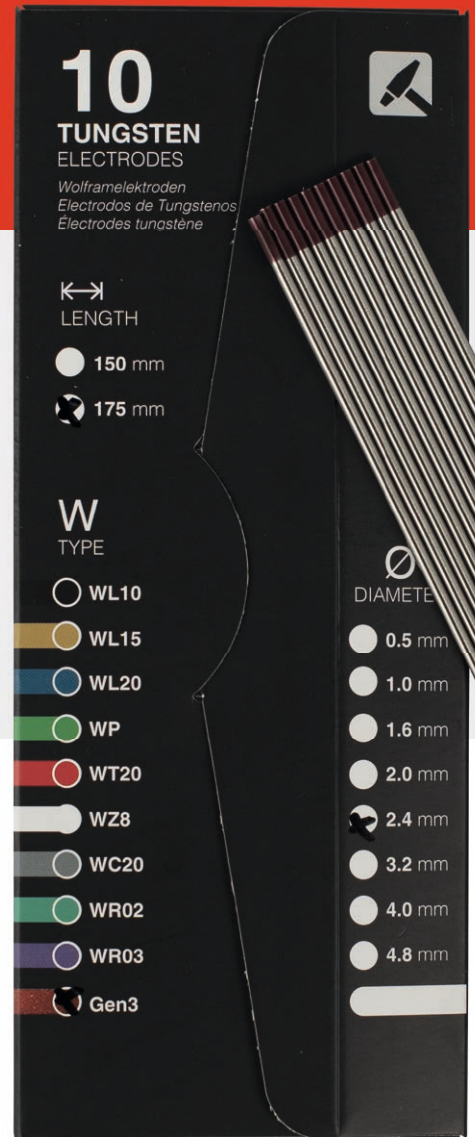
TUNGSTEN

ELECTRODES

The range of tungsten electrodes is very extensive. When it comes to choosing the right tungsten for your own welding task, you will find yourself confronted with the colour coding of the tungsten electrodes. The individual electrode types are marked with different colours. The colours stand for the respective material mix, i.e. which components other than tungsten are added to the electrodes. Depending on the welding process or material, one variant is more suitable than another.



i Personalised Packaging
We also offer private label packaging.



Choose your Tungsten Electrode

Application	WL10 Black	WL15 Gold	WL20 Blue	WP Green	WT20 Red	WZ8 White	WC20 Grey	WR02 Turquoise	WR03 Violet	Gen3 Pearl Copper
Direct Current Minus Pole	++	++	+++	-	+++	-	+	+++	+++	+++
Alternating Current	++	+	+	++	-	+++	+	+++	+++	+++
Arc Stability	+	+	++	-	+++	++	++	++	++	+++
Ignitability	++	++	+++	-	+++	++	+	+++	++++	+++++
Lifetime	+	++	+++	+	+++	++	+	++++	++++	+++++
High Alloy Steels	++	+++	+++	-	++++	-	+++	++++	++++	++++
Aluminium	++	+	+	++	-	++++	+	+++	+++	+++

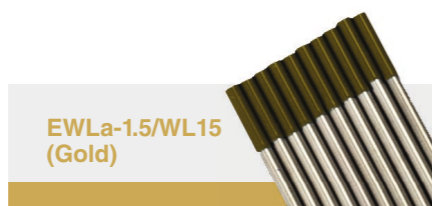
Electrodes



EWLa-1.0/WL10 (Black)

Principal Oxide
0.8 – 1.2% Lanthanum Oxide

Non-Radioactive. Best for use in Direct Current (DC). Best for non corroding steels, titanium alloys, nickel alloys, copper alloys. Best DC arc starts and stability, low erosion rate, wide amperage range, no spitting.



EWLa-1.5/WL15 (Gold)

Principal Oxide
1.3 – 1.7% Lanthanum Oxide

Non-Radioactive. Best for use in Direct Current (DC) 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 DC arc starts and stability, low erosion rate, wide amperage range, no spitting.



EWLa-2/WL20 (Blue)

Principal Oxide
1.8 – 2.2% Lanthanum Oxide

Non-Radioactive. Best general purpose electrode for both Alternating Current (AC) or Direct Current (DC) 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.



EWP/WP (Green)

Principal Oxide
– (None)

Non-Radioactive. Good for use in Alternating Current (AC) 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.



EWTh-2/WT20 (Red)

Principal Oxide
1.7 – 2.2% Thorium Oxide

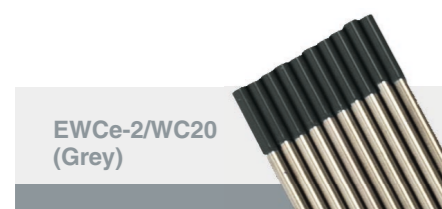
Radioactive. Best for use in Direct Current (DC) applications using transformer based constant current power sources. Best for use on non corroding steels, titanium alloys, nickel alloys, copper alloys. Good DC arc starts and stability, medium erosion rate, medium amperage range, medium tendency to spit.



EWZr-8/WZ8 (White)

Principal Oxide
0.7 – 0.9% Zirconium Oxide

Non-Radioactive. Best for use in Alternating Current (AC) 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.



EWCe-2/WC20 (Grey)

Principal Oxide
1.8 – 2.2% Cerium Oxide

Non-Radioactive. Best for use in Alternating Current (AC) or Direct Current (DC) 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 DC arc starts and stability.



WR02 SE (turquoise) EWG

Principal Oxide
**1.5% Lanthanum
0.8% Yttrium Oxides
0.8% Zirconium**

Non-Radioactive. Best for automated or robotic applications in Alternating Current (AC) or Direct Current (DC) 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.

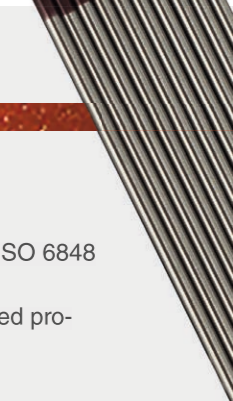


WR03 SE (Violet)

Principal Oxide
2.0% rare earth

Non-radioactive. The mixture of rare earth oxides as elements is suitable for both direct current and alternating current welding. It can be used to weld practically any metal. Because its ignition properties are quite excellent, it is therefore also often used for automated processes. During the welding process, its electrode temperature remains consistently low, which in turn ensures better current-carrying capacity and longer service life compared to thoriated electrodes.

The right tungsten for every application.



GEN3 3% SE (pearl copper)

Principal Oxide
3.0% rare earth

Extremely easy to ignite and long service life even in demanding applications.

Application
Optimum properties for use with direct current (DC) as well as alternating current (AC) for the processing of non-alloy and high-alloy steels, light metals such as aluminum as well as titanium, nickel, copper and magnesium alloys.

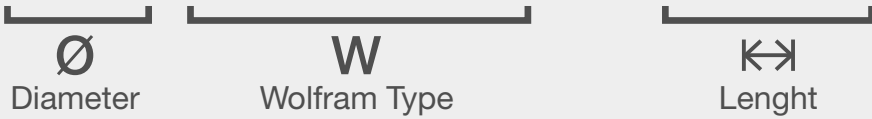
According to DIN EN ISO 6848

Ideal also for automated processes

Also available in 28° ground version on request

That's how you create the SKU

24 WL15 X 175



∅ – Possible diameters (in mm)

0,5	1,0	1,6	2,4	3,2	4,0	4,8
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↔ – Possible Lengths (in mm)

150	175
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W – Possible Wolfram Types

WL10 Black	WL15 Gold	WL20 Blue	WP Green	WT20 Red	WZ8 White	WC20 Grey	WR02 Turquoise	WR03 Violet	Gen3 Pearl Copper
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Grinding Angle

The sharper the electrode, the lower the ampere rating!

The electrode can only withstand the full ampere load at a ground angle of 60°. If electrodes are permanently overloaded, they lose their properties.

∅ (mm)	Grinding Angle (°)				
	15°	30°	45°	60°	75°
1,0	5 – 20	10 – 30	20 – 80	-	-
1,6	10 – 50	20 – 75	30 – 100	50 – 140	-
2,4	10 – 50	20 – 90	30 – 140	50 – 180	80 – 230
3,2	30 – 80	40 – 140	50 – 220	70 – 300	80 – 320
4,0	50 – 100	50 – 150	60 – 250	70 – 350	90 – 450

Manufacturing

Tungsten electrodes are manufactured in a wide variety of designs with the addition of rare earth oxides, using the forging process.

Component	74 183.84 W Tungsten Transition Metal	40 91.22 Zr Zirconium Transition Metal	57 138.9055 La Lanthanum Lanthanide	58 140.116 Ce Cerium Lanthanide	39 88.906 Y Yttrium Transition Metal
Melting Point	3425°	2715°	2315°	2400°	2425°
Function	impurity < 0.1%	current load	ignition	ignition	lifetime