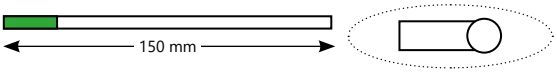
TIG Tungsten electrode

Tungsten electrodes are used for TIG welding. The very high melting temperature of Tungsten (approx. 3400°C) maintains an electric arc between the workpiece and the electrode without wearing out the electrode quickly. Several types of electrodes exist depending on the processes used. The EN26848 and ISO 6848 standards provide information on these electrodes.

WP Tungsten (pure)
Aluminium

AC +++

Pure Tungsten electrodes (green) are designed without additives for welding aluminium and its alloys with great arc stability. They make it possible to obtain a well-formed ball at the end of the electrode, this ball forms spontaneously from the first few seconds. As a result, the tungsten electrode for this type of welding does not sharpen.

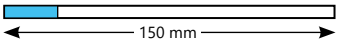


Ref.	ø	Quantity	Imax(A) AC
044555	1,6	x10	55 → 80
046719	2,0	x10	70 → 80
044579	2,4	x10	110 → 160
046726	3,2	x10	160 → 180

WR2 Tungsten
Steel / Stainless steel / Aluminium

AC ++ DC +++

WR2 Tungsten (turquoise) electrodes are versatile TIG electrodes for welding steels and stainless steels in direct current as well as aluminium in alternating current.

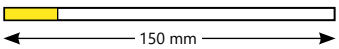


Ref.	ø	Quantity	Imax(A) DC	Imax(A) AC
044586	1,6	x10	25 → 95	55 → 80
044593	2,0	x10	60 → 130	70 → 80
044609	2,4	x10	100 → 200	110 → 160
044616	3,2	x10	150 → 250	160 → 180

WL15 Tungsten (Lanthanum)
Steel / Stainless Steel / Aluminium

AC +++ DC +++

Lanthanum Tungsten (gold) electrodes are universal TIG electrodes that can be used for both direct and alternating current. They are particularly recommended for welding pure materials or Aluminium, Titanium, Nickel, Copper and Magnesium alloys. The Lanthanum oxide level (1.5%) in their composition gives them a slower wear and a less current consuming ignition than WR2 electrodes. They are recommended for low currents.

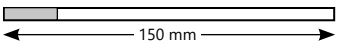


Ref.	ø	Quantity	Imax(A) DC	Imax(A) AC
045330	1,6	x10	25 → 95	55 → 80
045347	2,0	x10	60 → 130	70 → 80
045354	2,4	x10	100 → 200	110 → 160
045361	3,2	x10	150 → 250	160 → 180

WC Tungsten (Cerium)
Steel / Stainless Steel / Aluminium

AC +++ DC +++

WC tungsten electrodes (grey) are suitable for welding both AC and DC. They are mainly used for welding pure materials or alloys of Aluminium, Titanium, Nickel, Copper or Magnesium and are recommended for low currents. The Cerium oxide present in these electrodes gives them excellent ignition and reignition properties.



Ref.	ø	Quantity	Imax(A) DC	Imax(A) AC
063174	1,6	x10	25 → 95	55 → 80
063181	2,4	x10	60 → 130	70 → 80
063198	3,2	x10	100 → 200	110 → 160

TIG Tungsten electrode

E3 Tungsten
Steel / Stainless steel / Aluminium

AC +++ DC +++

E3® Tungsten electrodes (lilac) provide great flexibility of use. They are particularly recommended for welding steel, stainless steel, copper and brass at low to medium intensities. They can also be used to weld aluminium using alternating current.
Non-radioactive, they have characteristics close to the thoriated Tungsten electrode. They are easy to ignite and offers an excellent weldbead aesthetics. They are suitable for automatic welding.

150 mm

Ref.	ø	Quantity	Imax(A) DC	Imax(A) AC
046733	1,6	x10	25 → 95	55 → 80
046764	2,0	x10	60 → 130	70 → 110
046771	2,4	x10	100 → 200	110 → 160
046788	3,2	x10	150 → 250	160 → 180
046795	4,0	x10	250 → 350	180 → 200
063167	4,8	x10	400 → 550	250 → 350

WL20 Tungsten (Lanthanum)
Steel / Stainless Steel / Aluminium

AC +++ DC +++

Lanthanum Tungsten electrodes (violet tip) are universal TIG electrodes that can be used for both direct and alternating current and are particularly recommended for welding pure materials or alloys such as Aluminium, Titanium, Nickel, Copper and Magnesium.
The higher level of Lanthanum oxide (2%) in their composition optimizes their resistance and priming qualities for an ever more professional look. They are recommended for low currents.

150 mm

Ref.	ø	Quantity	Imax(A) DC	Imax(A) AC
037137	1,6	x10	25 → 95	55 → 80
037120	2,0	x10	60 → 130	70 → 80
037144	2,4	x10	100 → 200	110 → 160
037151	3,0	x10	150 → 250	160 → 180
037168	3,2	x10	250 → 350	180 → 220
037175	4,0	x10	350 → 450	220 → 250

TUNGSTEN ELECTRODES COMPARISON

	Steel / Stainless steel	Aluminium	DC ⎓	AC ∿	Arc stability	Arc ignition	Electrode lifespan
WP	---	++++	---	+++	++	+++	++
WL15	+++	++	+++	+++	++	+++	+++
WL20	+++	+	+++	+++	++	+++	+++
WC	+++	++	+++	++	+++	++++	++
WR2	++++	+++	++++	+++	++	+++	+++
E3	++++	+++	++++	+++	+++	++++	+++

--- unsuitable + correct ++ good +++ very good ++++ excellent

More

Sharpening the electrode: The sharpening angle has a very large impact on the characteristics of a weldbead. A large angle results in a narrow weld with high penetration while a small angle results in a wide weld with less penetration.

Electrode sharpener (ref. 083721)
Electrodes from ø 1 to 4 mm
Angle: 15°, 30°, 45° and 60°