

Welding Accessories

Tungsten Electrodes

The nuts and bolts for the best welding results.

For tungsten inert gas (TIG) welding, the non-fusing and temperature resistant tungsten electrode, in addition to the torch, the energy source and the inert gas, is a major factor for obtaining optimum results.

The following must be taken into consideration when selecting the tungsten electrode:

- Type of tungsten electrode
- Diameter of electrode
- Quality of the polished section and roughness of the electrode
- Tip geometry of the electrode



Influence of doping on the characteristics of the electrode.

Pure Tungsten

Undoped electrodes consist of pure tungsten. The main area of application of this type of electrode is the AC welding of aluminum alloys with excellent arc stability. The pure tungsten electrodes are not suitable for DC welding. Color coding: Pure = Green

E3®

Electrodes with rare earth (mixed oxides). In comparison to thoriated electrodes this electrode is less harmful to the environment and not radioactive. The electrodes offer excellent ignition characteristics and consistent welding properties. They are universal and suitable for all applications in the whole range of DC and AC welding for non-alloyed and high-alloyed steel, aluminium, titanium, nickel, copper and magnesium alloys. Because of their great ignition properties they are also suitable for automated welding. Due to the low electrode temperature, they offer an increased current carrying capacity and longer service life than thoriated electrodes. Color-coding: E3® = Purple

Lanthanated 1.5%, 2%

Lanthanated electrodes are suitable for applications in DC and AC welding. Their main areas of application are the welding of non-alloyed and high-alloyed steel, aluminium, titanium, nickel, copper and magnesium alloys. These electrodes are also suitable for the use in micro-plasma welding. Ignition characteristics are enhanced with increased amounts of lanthanum oxide (La_2O_3). The overall service life and current carrying capacity is lower than the E3® electrodes. Color coding: 1.5% = Gold, 2% = Blue

Ceriated 2%

By adding cerium oxide (CeO_2), these electrodes have an increased capacity compared to pure tungsten electrodes, however the WCe electrodes have a lower capacity than the E3® and WL electrodes. Main areas of application are in the DC and AC welding of non-alloyed and high-alloyed steel, aluminium, titanium, nickel, copper and magnesium alloys in the low and middle current range. Color coding: 2% = Orange

Zirconiated

Tungsten electrodes with the addition of zirconium have a lower risk of contaminating fused materials from the tungsten. The area of application for this electrode is AC welding. They are suitable for DC welding to only a limited extent. Color coding - Brown

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Tungsten Electrodes

Tungsten electrodes: 3 inch length (10 pcs)

Grade	Pure	E3®	Lanthanated 1.5%	Lanthanated 2%	Zirconiated	Ceriated 2%	
Ø	Color coding	Green	Purple	Gold	Blue	Brown	Orange
.040		040-3G	-	040-3GL	-	040-3GZ	040-3GC2
1/16		116-3G	-	116-3GL	-	116-3GZ	116-3GC2
3/32		332-3G	-	332-3GL	-	332-3GZ	332-3GC2
1/8		18-3G	-	-	-	-	-
5/32		532-3G	-	-	-	-	-

Tungsten electrodes: 7 inch length (10 pcs**)

Grade	Pure	E3®	Lanthanated 1.5%	Lanthanated 2%	Zirconiated	Ceriated 2%	
Ø	Color coding	Green	Purple	Gold	Blue	Brown	Orange
.020		020-7G	020-7E3	020-7GL	020-7GL2	020-7GZ	020-7GC2
.040		040-7G	040-7E3	040-7GL	040-7GL2	040-7GZ	040-7GC2
1/16		116-7G	116-7E3	116-7GL	116-7GL2	116-7GZ	116-7GC2
3/32		332-7G	332-7E3	332-7GL	332-7GL2	332-7GZ	332-7GC2
1/8		18-7G	18-7E3	18-7GL	18-7GL2	18-7GZ	18-7GC2
5/32		532-7G	532-7E3	532-7GL	-	532-7GZ	532-7GC2
3/16		316-7G	316-7E3	316-7GL	-	316-7GZ	316-7GC2
1/4		-	-	-	-	-	-

** Electrodes with diameter of 3/16" or 1/4" are sold 5 per package.



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