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## CK Worldwide T187GC2

# CK T187GC2 2% Ceriated Tungsten Electrode Instruction Manual

Model: T187GC2 | Brand: CK Worldwide

## 1. PRODUCT OVERVIEW

The CK T187GC2 2% Ceriated Tungsten Electrode is designed for superior performance in both DC (Direct Current) and AC (Alternating Current) welding processes. Its composition, consisting of 97.3% Tungsten, 1.8%-2.2% Cerium, and 0.5% other materials, ensures excellent arc starting at low current settings and proficient use across various applications. These electrodes are particularly effective for welding a range of materials including Carbon Steel, Stainless Steel, Nickel Alloy, and Titanium. Each package contains 10 electrodes, measuring 1/8" x 7" (3.2mm x 175mm), with a ground finish.

- **2% Ceriated (Grey) EWCe-2/WC20:** Non-radioactive and versatile for AC/DC applications.
- **Principal Oxide:** 1.8–2.2% Cerium Oxide.
- **Compatibility:** Ideal for use with inverter or transformer-based constant current power sources.
- **Material Suitability:** Good for low-alloyed steels, non-corroding steels, aluminum alloys, magnesium alloys, titanium alloys, nickel alloys, and copper alloys.
- **Performance Characteristics:** Offers good ignition and re-ignition properties, long service life, excellent arc stability, low erosion rate, best performance at low amperage range, no spitting, and reliable D/C arc starts and stability.



Figure 1: Packaging of CK T187GC2 2% Ceriated Tungsten Electrodes. This image displays the clear plastic packaging containing ten electrodes, with the product label clearly visible, detailing the product name, ceriation percentage, dimensions, and compliance standards.

## 2. SAFETY INFORMATION

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Always adhere to general welding safety practices when using tungsten electrodes. This includes, but is not limited to:

- Wearing appropriate personal protective equipment (PPE) such as welding helmets with proper shade, flame-resistant clothing, welding gloves, and safety footwear.
- Ensuring adequate ventilation in the welding area to disperse fumes and gases.
- Protecting bystanders from arc rays and spatter.
- Handling electrodes with clean, dry hands.
- Storing electrodes in a dry, clean environment to prevent contamination.

### 3. SETUP AND PREPARATION

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Proper preparation of the tungsten electrode is crucial for optimal welding performance and arc stability. Follow these steps for setup:

1. **Select Electrode Size:** Choose the appropriate electrode diameter (1/8" for this model) based on the welding current and material thickness.
2. **Grind the Tip:** For DC welding, grind the electrode tip to a sharp point. For AC welding, a blunted or balled tip may be preferred depending on the application. Ensure the grind marks run lengthwise along the electrode to promote stable arc characteristics. Use a dedicated tungsten grinder to avoid contamination.
3. **Cleanliness:** Ensure the electrode is free from any contaminants, oils, or dirt before insertion into the torch collet.
4. **Insertion:** Insert the prepared electrode into the TIG torch collet, ensuring it is securely tightened. The stick-out length should be adjusted according to the joint configuration and shielding gas cup size.
5. **Power Source Connection:** Connect the TIG torch to your welding power source according to the manufacturer's instructions for your specific welding machine.

### 4. OPERATING INSTRUCTIONS

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Ceriated tungsten electrodes are highly versatile and perform well across a range of welding applications. Follow these guidelines for operation:

- **DC Welding (Direct Current):**

Ceriated electrodes excel in DC welding, particularly for low-amperage applications and arc starting. They are suitable for welding carbon steel, stainless steel, nickel alloys, and titanium. Use DC Electrode Negative (DCEN) polarity for most applications, where the electrode is connected to the negative terminal of the power source.
- **AC Welding (Alternating Current):**

While primarily known for DC performance, ceriated electrodes can also be used proficiently in AC processes, especially with inverter-based power sources. They offer good arc stability for welding aluminum and magnesium alloys. Adjust the AC balance and frequency settings on your welding machine for optimal results.
- **Current Range:**

These electrodes perform best in the low to medium amperage range. Refer to your welding machine's guidelines and general tungsten amperage charts for recommended settings based on electrode diameter and material thickness.
- **Arc Starting:**

The 2% ceriated composition provides excellent arc ignition and re-ignition properties, making starts smooth and consistent.

### 5. MAINTENANCE AND STORAGE

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Proper maintenance and storage will extend the life and performance of your CK T187GC2 electrodes:

- **Cleaning:** If an electrode becomes contaminated during welding (e.g., by touching the weld puddle), it must be re-ground to remove the contaminated portion before further use.
- **Storage:** Store unused electrodes in their original packaging or a clean, dry, sealed container to protect them from moisture, dust, and other contaminants. Humidity can negatively affect electrode performance.
- **Handling:** Handle electrodes carefully to avoid bending or damaging the tips.

### 6. TROUBLESHOOTING

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While ceriated tungsten electrodes are known for their stability, some common issues can arise during welding:

Problem	Possible Cause	Solution
Unstable Arc / Arc Wander	Contaminated electrode tip, improper grinding, insufficient shielding gas, incorrect current settings.	Re-grind electrode, check gas flow, adjust amperage, ensure proper electrode stick-out.
Excessive Electrode Erosion	Too high amperage for electrode size, incorrect polarity (for DC), poor shielding gas coverage.	Reduce amperage, verify DCEN polarity for DC welding, check gas flow and cup size.
Difficulty Arc Starting	Dull or contaminated tip, low high-frequency start setting, poor ground connection.	Re-grind to a sharp point, check high-frequency settings, ensure good work clamp connection.

## 7. SPECIFICATIONS

Attribute	Detail
Model Number	T187GC2
Type	2% Ceriated Tungsten Electrode (EWCe-2/WC20)
Dimensions	1/8" x 7" (3.2mm x 175mm)
Quantity	10 Pieces per pack
Material Composition	97.3% Tungsten, 1.8%-2.2% Cerium, 0.5% Other
Finish	Ground Finish
Color Code	Grey
Compliance Standards	AWS A5.12M/A5.12:2009 EWCe-2, ISO 6848:2004 MOD WC20
Product Dimensions (Package)	6 x 1 x 1 inches; 1 Pound
Manufacturer	CK Worldwide

## 8. SUPPORT AND CONTACT INFORMATION

For technical support, inquiries, or additional information regarding your CK T187GC2 Tungsten Electrodes, please contact CK Worldwide directly:

**Manufacturer:** CK Worldwide, Inc.

**Address:** P.O. Box 1636 Auburn, WA 98071

**Telephone:** (253) 854-5820

**Fax:** (253) 939-1746

**Website:** [www.ckworldwide.com](http://www.ckworldwide.com)

Please have your product model number (T187GC2) ready when contacting support to ensure efficient assistance.

