



## Tungsten Electrodes

- Oxides used are primarily zirconium, thorium, lanthanum or cerium
- Additions are 1% - 4%, improve arc initiation, especially when direct current (DC) welding is employed
- Thorium oxide (thoria), effective in terms of long life and thermal efficiency
- Zirconium oxide (zirconia) has been commonly used for alternating (AC) TIG welding, welding aluminum
- Electrode length: 7"
- Each package contains 10 electrodes**

### 2% THORIATED:

- Good current capacity, arc stability and easy arc start on DC current
- High resistance to weld pool contamination
- Maintains sharpened tip configuration
- Not normally used on AC current because it is difficult to maintain the balled end

### 0.8% ZIRCONIATED:

- Excellent for AC welding due to the higher arc stability
- High-resistance to weld pool contamination
- Excellent balled end retention
- Handles higher current with less spitting
- Better arc starts and arc stability than pure tungsten

### 1.5% LANTHANATED:

- Lowest erosion rate • Wide current range
- No spitting • Best DC arc starts and stability

### 2% CERIATED:

- Excellent arc starting, stability, long life and higher-current capacity than thoriated tungsten
- Operate successfully with AC or DC current
- Non-radioactive • Low erosion rate
- Wide current range • No spitting

### PURE:

- Lowest current capacity and least expensive
- Maintains a clean balled end for welding on AC
- More prone to weld contamination than other types of tungsten electrodes
- Tends to spit at higher currents • Used for non-critical welds only

### 2% LANTHANATED:

- Non-radioactive
- Best general purpose electrode at medium to higher amperages for both A/C or 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, and copper alloys
- Good arc starts and stability, low erosion rate, medium to high current range

### LAYZR™:

- Non-radioactive
- Best for automated or robotic applications in A/C or 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, and copper alloys
- Very stable tip geometry runs cooler than 2% thoriated, longer life
- Very best low amperage starts



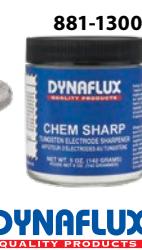
| Model No.               | Mfg. No. | ISO Colour Chart        | Dia." | Price /Each |
|-------------------------|----------|-------------------------|-------|-------------|
| <b>2% THORIATED</b>     |          |                         |       |             |
| TTT403                  | T0207GT2 | Red                     | 0.020 |             |
| NP552                   | T0407GT2 | AWS A5.12 EWTh-2        | 0.040 |             |
| NP544                   | T1167GT2 | ISO 6848 WT20           | 1/16  |             |
| NP545                   | T3327GT2 |                         | 3/32  |             |
| NP543                   | T187GT2  |                         | 1/8   |             |
| 714-1150                | T5327GT2 |                         | 5/32  |             |
| <b>0.8% ZIRCONIATED</b> |          |                         |       |             |
| TTT408                  | T0207GZ  | White                   | 0.020 |             |
| TTT409                  | T0407GZ  | AWS A5.12 EWZr-8        | 0.040 |             |
| NP546                   | T1167GZ  | ISO 6848 WZ8            | 1/16  |             |
| NP547                   | T3327GZ  |                         | 3/32  |             |
| NP553                   | T187GZ   |                         | 1/8   |             |
| 714-1185                | T5327GZ  |                         | 5/32  |             |
| <b>1.5% LANTHANATED</b> |          |                         |       |             |
| TTT404                  | T0207GL  | Gold                    | 0.020 |             |
| TTT405                  | T0407GL  | AWS A5.12 EWLs-1.5      | 0.040 |             |
| 714-1200                | T1167GL  | ISO 6848 WL15           | 1/16  |             |
| 714-1205                | T3327GL  |                         | 3/32  |             |
| 714-1210                | T187GL   |                         | 1/8   |             |
| TTT406                  | T5327GL  |                         | 5/32  |             |
| <b>2% CERIATED</b>      |          |                         |       |             |
| TTT407                  | T0207GC2 | Grey                    | 0.020 |             |
| NP548                   | T0407GC2 | AWS A5.12 EWCe-2        | 0.040 |             |
| NP549                   | T1167GC2 | ISO 6848 WC20           | 1/16  |             |
| NP550                   | T3327GC2 |                         | 3/32  |             |
| NP551                   | T187GC2  |                         | 1/8   |             |
| 714-1177                | T5327GC2 |                         | 5/32  |             |
| <b>PURE</b>             |          |                         |       |             |
| TTT410                  | T0207G   | Green                   | 0.020 |             |
| NP539                   | T0407G   | AWS A5.12 EWP           | 0.040 |             |
| NP540                   | T1167G   | ISO 6848 WP             | 1/16  |             |
| NP542                   | T3327G   |                         | 3/32  |             |
| NP541                   | T187G    |                         | 1/8   |             |
| 714-1060                | T5327G   |                         | 5/32  |             |
| <b>2% LANTHANATED</b>   |          |                         |       |             |
| TTV117                  | T0207GL2 | Blue                    | 0.020 |             |
| TTV118                  | T0407GL2 | AWS A5.12 EWLs-2        | 0.040 |             |
| TTV119                  | T1167GL2 | ISO 6848 WL20           | 1/16  |             |
| TTV120                  | T3327GL2 |                         | 3/32  |             |
| TTV121                  | T187GL2  |                         | 1/8   |             |
| TTV122                  | T5327GL2 |                         | 5/32  |             |
| <b>LAYZR™</b>           |          |                         |       |             |
| TTV111                  | T0207GTM | Chartreuse (Lime Green) | 0.020 |             |
| TTV112                  | T0407GTM | AWS A5.12 EWG           | 0.040 |             |
| TTV113                  | T1167GTM | ISO 6848                | 1/16  |             |
| TTV114                  | T3327GTM |                         | 3/32  |             |
| TTV115                  | T187GTM  |                         | 1/8   |             |
| TTV116                  | T5327GTM |                         | 5/32  |             |

## Chem-Sharp

### CHEMICAL TUNGSTEN SHARPENERS

- Safest way to sharpen tungsten without grinding
- Chemically mills a perfect point on pure, thoriated or titanium type tungsten
- Repoint time is approximately one minute at the work station
- Extends tungsten life four times longer than that of ground tungsten
- 5 oz. net jars, over 500 sharpenings per jar

881-1305



| Model No. | Mfg. No. | Description            | Price /Each |
|-----------|----------|------------------------|-------------|
| 881-1300  | DF600-6  | Jar, 5 oz. net         |             |
| 881-1305  | DF601-6  | Tungsten Holder        |             |
| 881-1310  | DF602-4  | Kit w/1 Jar and Holder |             |

## Tungsten Stick-Out Gauges

- Made of durable solid brass
- Easily lock-in, correct stick-out from the end of nozzle
- Face of gauge marked in 1/16" indications for easy calculation of required stick-out
- Consistent stick-out adds quality to every weld
- Repeatable for welder to welder



| Model No. | Mfg. No. | Description                   | Price /Each |
|-----------|----------|-------------------------------|-------------|
| TTU279    | TG1      | For Standard Torch            |             |
| TTU280    | TG1-24   | For 24 Series and Micro Torch |             |