

Castegnaro, the 6th of March 2013

Trafimet, safety first!

Turquoise oxides mixture Tungsten electrodes WR2

In the continuous research of improvement of products quality and safety, from 2013 Trafimet offers a new range of electrodes denominated WR2 in turquoise color with oxide mixture, safer and with a better performance. The WR2 turquoise electrodes are suggested as an alternative and as a replacement to the thoriated ones, which are composed with thorium oxide (ThO₂).

Thorium oxide is a low-level radioactive material that has to be stored and processed following appropriate protective measures.

Studies conducted on tungsten electrodes treated with thorium, demonstrated that alpha and beta radiations emitted during normal handling phases and welding are negligible, being widely below the normal radioactive exposure level we are daily subdued to and well below the limits established by ICRP (international Commission on Radiological Protection) for jobs classified as not exposed.

During the grinding of the thoriated tungsten electrodes, radioactive dust is created, posing the potential hazard of internal radiation exposure by inhalation or ingestion unless care is taken to control the dust.

Consequently it is important to remove regularly the dust generated by grinding.

In view of these experiences, we suggest, as well as the "Istituto Italiano della Saldatura" (Italian Welding Institute), the use of tungsten electrodes not treated with thorium.

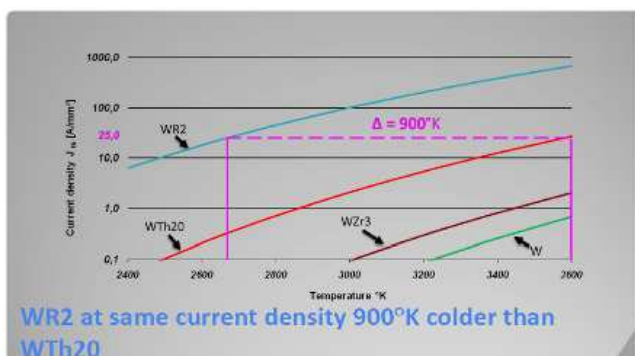
For this reason, Trafimet suggests the use of WR2 turquoise electrodes.

In the next drawings, you will see the advantages of using WR2 turquoise electrodes instead of WR2 thoriated.

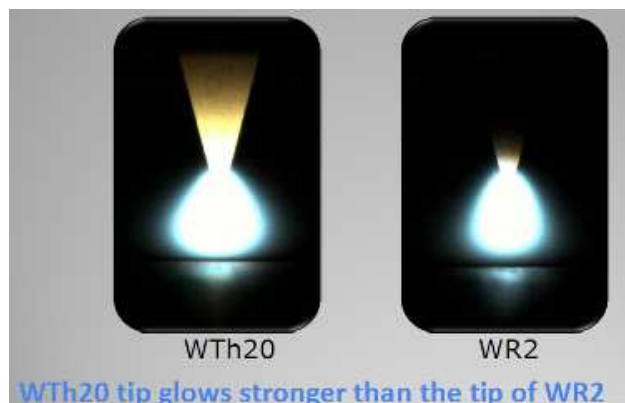
Main strenghts are:

- greater electricity density for the same temperature reached on the spike **Tab 1**
- The arc tends to stabilize in a shorter time and remains concentrated on the spike **Tab 2**
- Lower spike consumption compared to electrodes with thorium **Tab 3**
- The absence of thorium inside the electrode makes the product safer during sharpening and use.

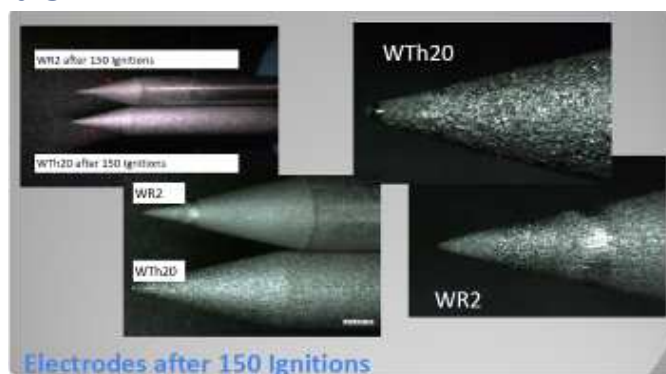
Tab 1



Tab 2



Tab 3



The thoriated 2% tungsten electrodes included in some of our TIG torches and in the spare parts kit, will be replaced gradually with WR2 turquoise tungstens.

For more details, please don't hesitate to contact our commercial department.

Trafimet Distribution