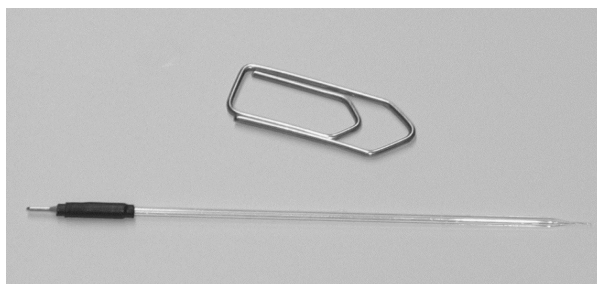
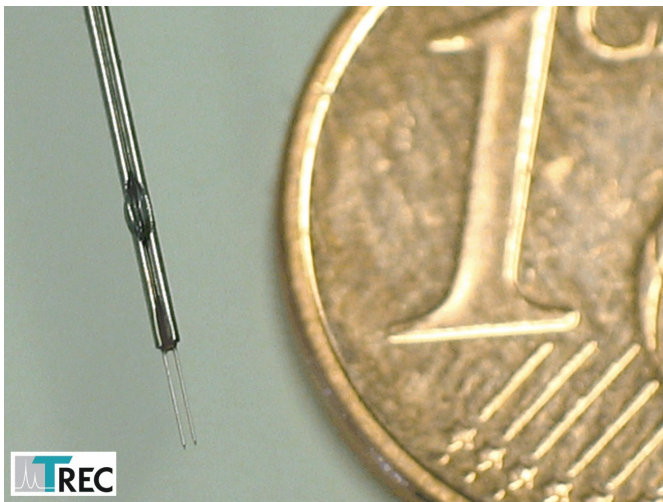
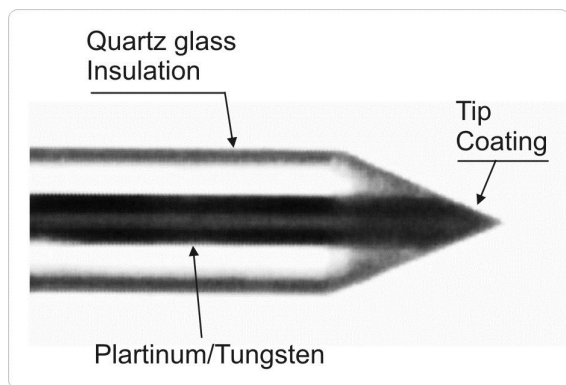


Thomas Stimulation Microelectrodes Mono and bipolar Versions



 Made in
Germany

Certified
ISO 9001

 TÜVRheinland®
Precisely Right.

Product Features

- ◆ **Material:**
Quartzglass insulated Platinum/
Tungsten
- ◆ **Outer shaft diameter 80µm**
- ◆ **Unique material combination**
- ◆ **Biocompatible materials**
- ◆ **Very thin shafts** minimize tissue damage
- ◆ Suitable for **cortical** as well as **deep brain stimulation**
- ◆ Iridium-oxide coating offers **large charge transfer** capacity with **small electrode tips**
- ◆ **Low electrode tissue impedance** (below 50kOhm) with small shaft diameters (80µm)

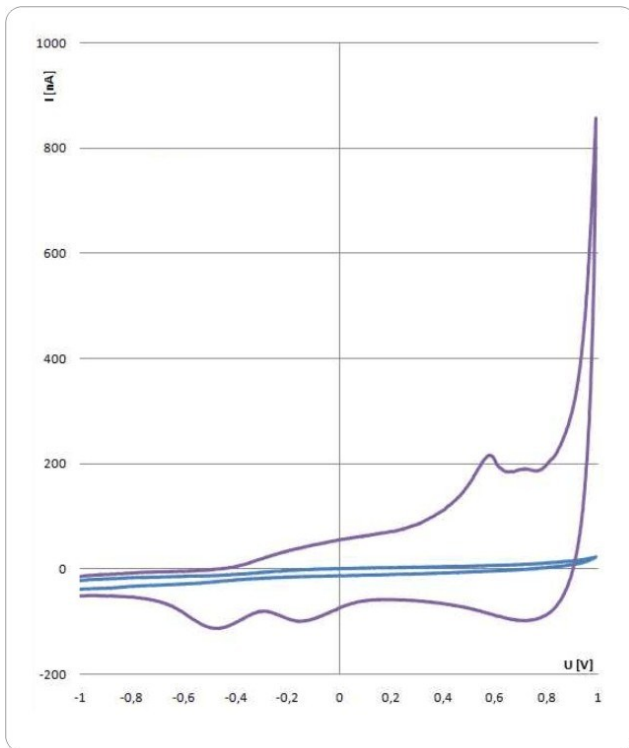


Figure 1: Violet curve shows the voltammogram of a coated microelectrode, blue curve shows the results for an uncoated electrode tip.

A thin film of iridium-oxide is used as low impedance tip coating for Thomas RECORDING stimulation & recording microelectrodes. The iridium-oxide provides a means of injecting charge into neural tissue while minimizing electrochemically irreversible processes at the microelectrode-tissue interface. In figure 1 one can see the increase of the charge transfer of an iridium-oxide coated (violet curve) in comparison to an uncoated platinum/tungsten microelectrode (blue curve). The area under the current-voltage curve, as seen in figure 1, quantifies the charging capacity of the electrode in both the anodic and cathodic phases of current.

The electrode impedance value at 1kHz usually drops from app. 500-600kOhm (uncoated electrode tip) below 50kOhm. (iridium-oxide coated electrode tip).

The special manufacturing technique of our unique quartz glass insulated microelectrodes causes microgrooves in the metal surface. The additional tip coating in the microgrooves causes an additional and significant increase of the conductive metal area and drops the electrode tissue impedance dramatically. So with this unique material combination Thomas RECORDING is able to offer stimulating electrodes with very small tip sizes and extremely low electrode impedances.

We are looking forward to your request:

info@ThomasRECORDING.com