Heating a titanium bracelet in order to darken it to create the desired finish

**Objective**
To heat a titanium bracelet to 1000 ºF to blacken it and create a consistent finish at the desired color

**Material**
- Customer supplied titanium bracelet

**Temperature**
1000 ºF (538 ºC)

**Frequency**
210 kHz

**Equipment**
- Ambrell EASYHEAT 2kW 150-400 kHz induction heating system equipped with a remote work head containing two 0.33 μF capacitors
- A single position two-turn helical induction heating coil designed and developed specifically for this application

**Process**
The bracelet was placed inside the induction coil and the heat was turned on. Within 35 seconds the center band of the bracelet turned black. The client had been using a torch, but looked to induction due to speed, safety and repeatability.

**Results/Benefits**
- Speed: Induction heated and darkened the bracelet rapidly, delivering an efficiency gain when compared to a torch
- Repeatability: The bracelet can be heated quickly, consistently and efficiently with induction, making it advantageous when compared to a torch
- Safety: There’s no open flame with a torch, so it lends itself to a safer working environment
The bracelet inside the induction coil

The bracelet after the center band had been darkened by induction