

## ABOUT BLACK TITANIUM

Black Titanium is a unique titanium based alloy that offers attractive properties for a wide range of applications.

An extraordinary characteristic of Black Titanium is the ability to turn the metal black from the outside in using a patented process. It is not an applied process or coating. During this process it is surface hardened to depths that produce very high wear resistance. The hardened layer is permanent rendering it highly durable for a wide range of applications from consumer wear to commercial use. The primary element in the alloy is titanium making it biocompatible.

## FIXTURING

When blackening any pieces that have been formed after machining, a fixture will be needed to hold the item during the blackening process as the material has memory and will return to its original shape. Times will vary from piece to piece depending on design, thickness and overall mass, exceeding recommended times will result in undesired results.

## SURFACE FINISH

Note, any surface finish your items may have prior to the blackening process will translate through the black.

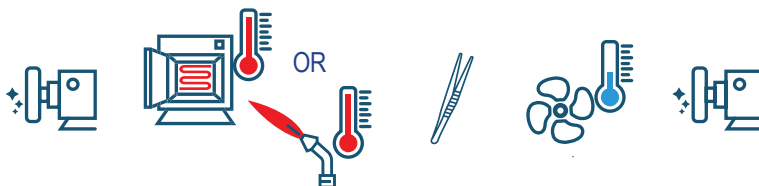
## BLACKENING BY OVEN OR KILN

**1.** Finish piece to desired quality and clean of any residues **2.** Place items on Niobium or Titanium trays/blocks **3.** Place in pre-heated oven @ 1000°F-1500°F anywhere from one (30) thirty seconds to five (5) minutes, depending on thickness of material **4.** Handle with copper tongs **5.** Let air cool on steel block **6.** Give final polish/gloss.

## BLACKENING BY PROPANE TORCH

**1.** Finish piece to desired quality and clean any residues **2.** Suspend item using a titanium wire, nothing should be touching the metal as it heats **3.** Heat by torch until piece is red hot, try to distribute heat as evenly as possible **4.** Handle with copper tongs **5.** Let air cool on steel block **6.** Give final polish/gloss.

Please note that blackening process is different for every piece depending on geometry and volume, some experimentation is required on your part.



**PLEASE WEAR PROTECTIVE GEAR BEFORE BLACKENING**