

MetalONE update 6/2021

Dear supporter,

We are thrilled to inform you that our R&D team **modified a metalONE** and we are now testing almost **pure copper**.

We began increasing the **laser source power** to 1 KW and changed all the **optical systems** accordingly. We have now entered the testing phase to **find the right combination** of **printing parameters** (laser power, speed and focus). We know that there's a long road ahead, but we're sure that the work we're doing will bring **continuous improvements** to the metalONE system.

The following images show the results obtained from the **first print jobs** with this material.

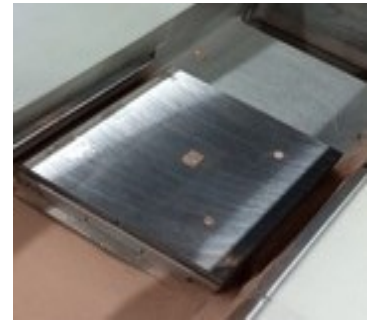


Fig. 1 First test to understand the copper adhesion to the iron buildplate.



Fig. 2 A failed print, the fused material did not attach to the plate and moved around.

As shown in Fig. 2 it's not an easy task to maintain the prints stuck to the print platform. **Preheating** techniques have been implemented to ensure bed adhesion and **regulate the heat dissipation** during the first layers of the prints.

Laser source **power** and printing **speeds** were also **tweaked accordingly** to find the working window that enabled us to **print the first test cubes**.

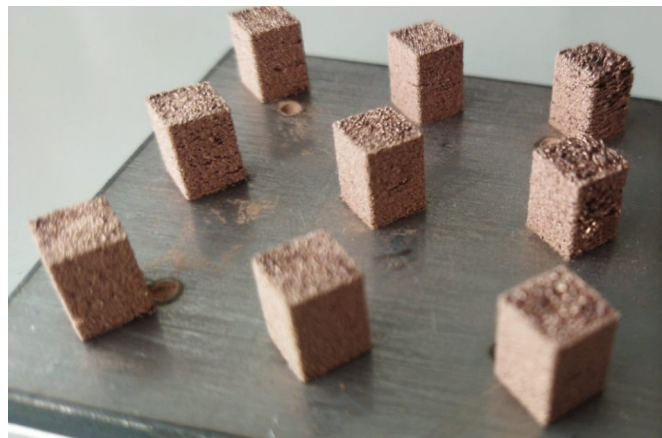
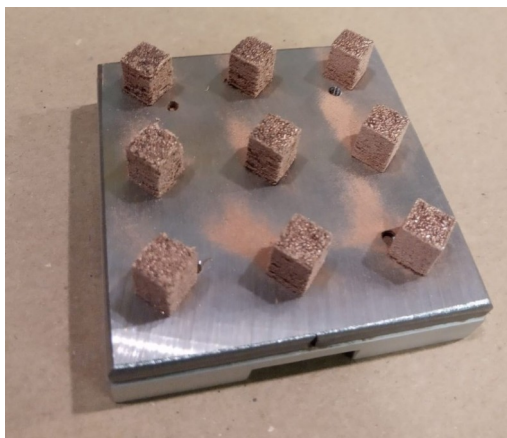


Fig. 3 and Fig. 4 Two build plates with test cubes sintered with different laser power and speed parameters