



SAND TOOL AND CORE 3D PRINTING

For 3D printing of sand casting tools we use VoxelJet technology. Utilizing the large building chamber.

PROS

- Capable of building complex shapes
- Large building chamber

CONS

- Only suitable for small batches
- Totally depending on foundry technology know-how



BENEŠ a LÁT a.s.
Tovární 463
CZ - 289 14 Poříčany
+420 267 227 301
info@benesalat.cz
www.benesalat.cz



3D PRINT ADVANTAGES

- Reduced lead time
- Manufacturing from 3D data w/o special tools/jigs
- Optimized to the application/user
- Manufacturing of complex features/shapes, which is not possible via other technology
- Weight saving, topology optimized shapes, high values of mechanical properties
- Efficient use of material, minimization of waste
- Price at small series

3D METAL PRINTING OF DIE-CASTING TOOLS WITH CONFORM COOLING

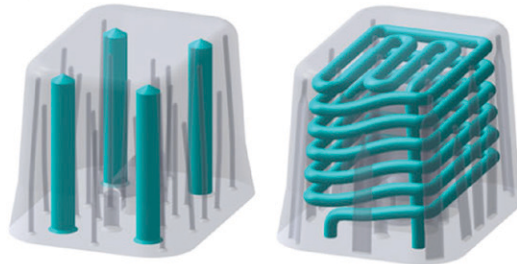
We print Die-Casting tools using DMLS technology that brings the possibility to integrate conform cooling structure.

PROS

- Longer Die-Casting tool life
- Reduced cycle-time
- Improved casting quality
- Hybrid printing – we print only the conform cooling part of the core

CONS

- Higher tooling costs
- Limited availability of printable materials

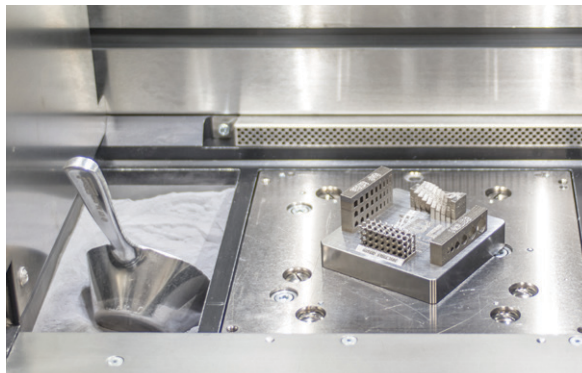
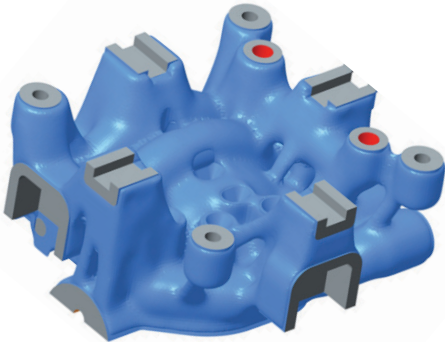
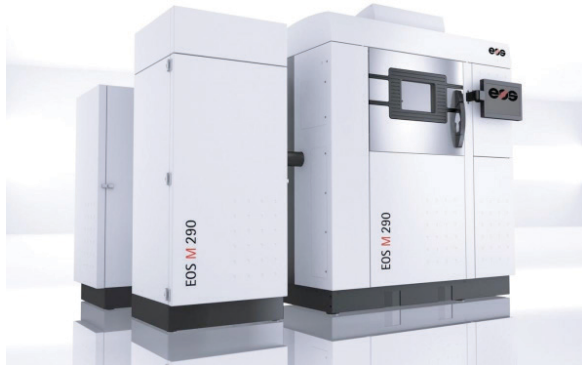


METAL MATERIALS 3D PRINT



TECHNOLOGY IS OUR LIVING

DMLS TECHNOLOGY 3D PRINTER EOS M290



WE WILL ACCELERATE YOUR PRODUCT DEVELOPMENT PHASE

We will optimize your product to your real needs
– your product will be from topology as well
as mechanical values points of view optimal.
You will save on the weight, volume.
We only use premium materials

3D METAL PRINTING PRINCIPLE

A thin layer of metal powder is spread over the build platform. A high-powered laser scans the cross section of the component, fusing metal particles together. Once the laser sintering in the layer is done, the build platform descent of the layer thickness, new layer applies and laser sintering continues.

MATERIALS

- AlSi10Mg Aluminium alloy
- 1.2709 Maragin steel
- 17-4 PH Stainless steel
- Ti6Al4V Titanium alloy

PARAMETERS

- Laser 1 x 400W Yb-fiber Laser
- Building chamber 250 x 250 x 325mm
- Laser spot size <math><100\mu\text{m}</math>
- Scanning speed up to 7m/sec
- Building platform pre-heated
- Inert atmosphere N/Ar
- Metal powder layers thickness:
 - 20 μm – „Surface“
 - 40 μm – „Performance“
 - 50 μm – „Speed“

OUR 3034°F HOT NEWS