

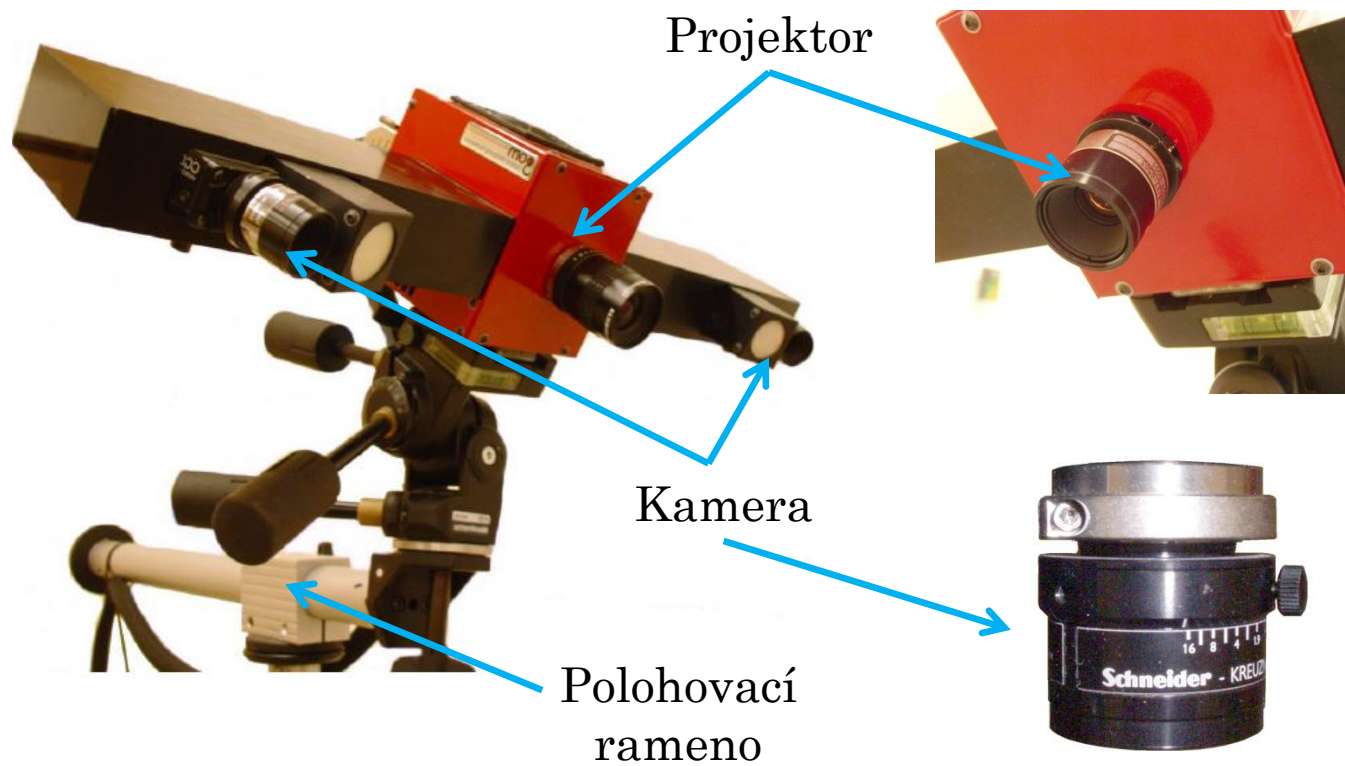


3D SCANER ATOS, 3D TISK

Popis a princip

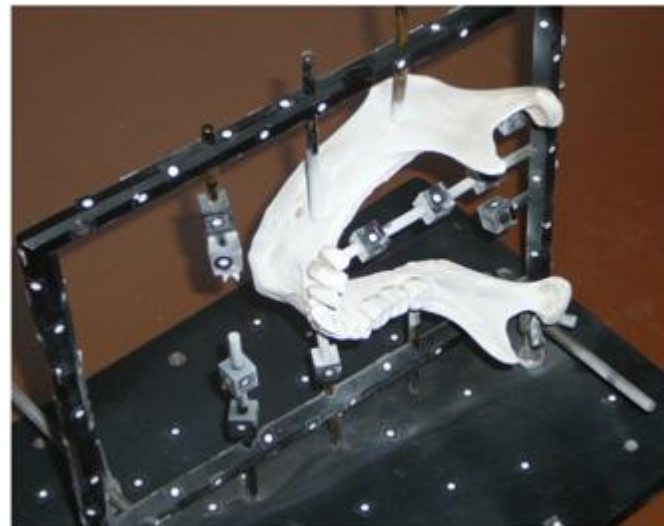
3D SCANNER ATOS

○ Popis



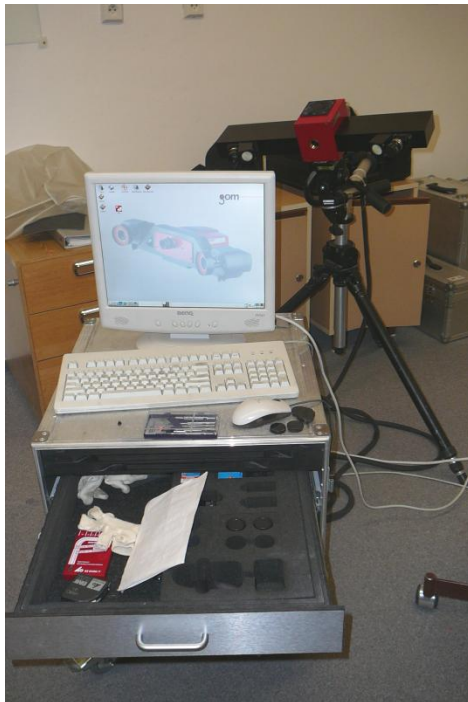
3D SCANNER ATOS

- Příprava skenovaného objektu
 - Nástřik křídového prášku
 - Použití rámečku s referenčními body

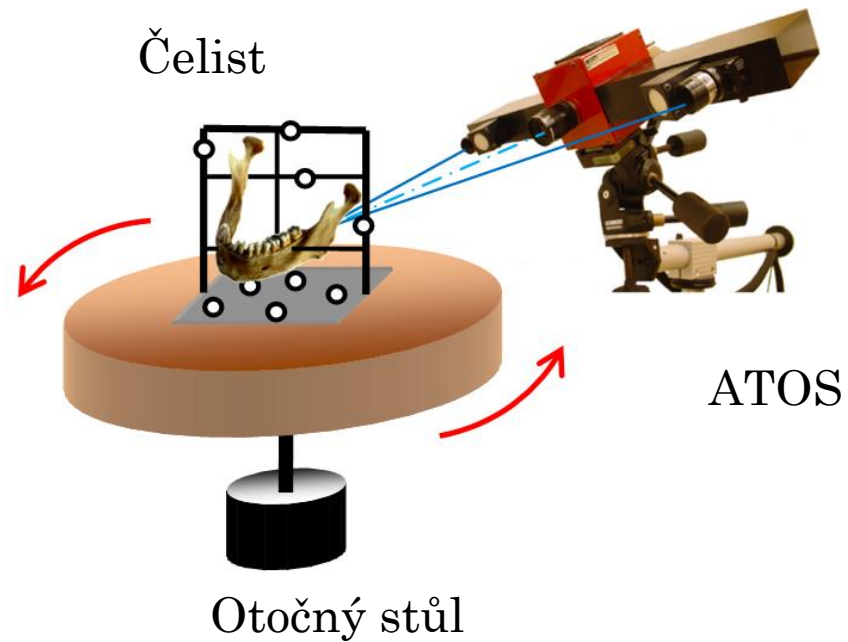


3D SCANNER ATOS

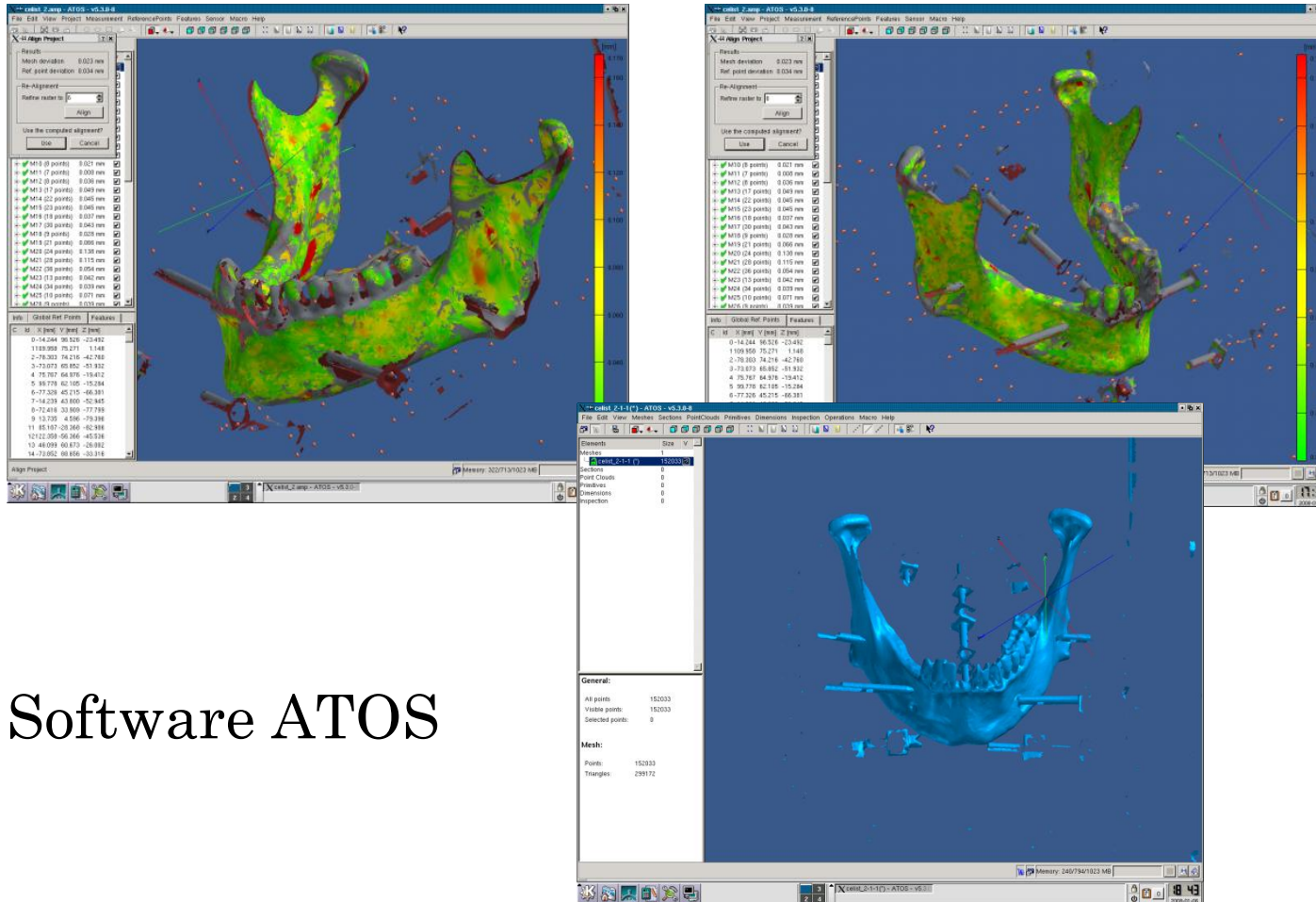
- Schéma měření



PC zařízení se softwarem ATOS



3D SCANNER ATOS

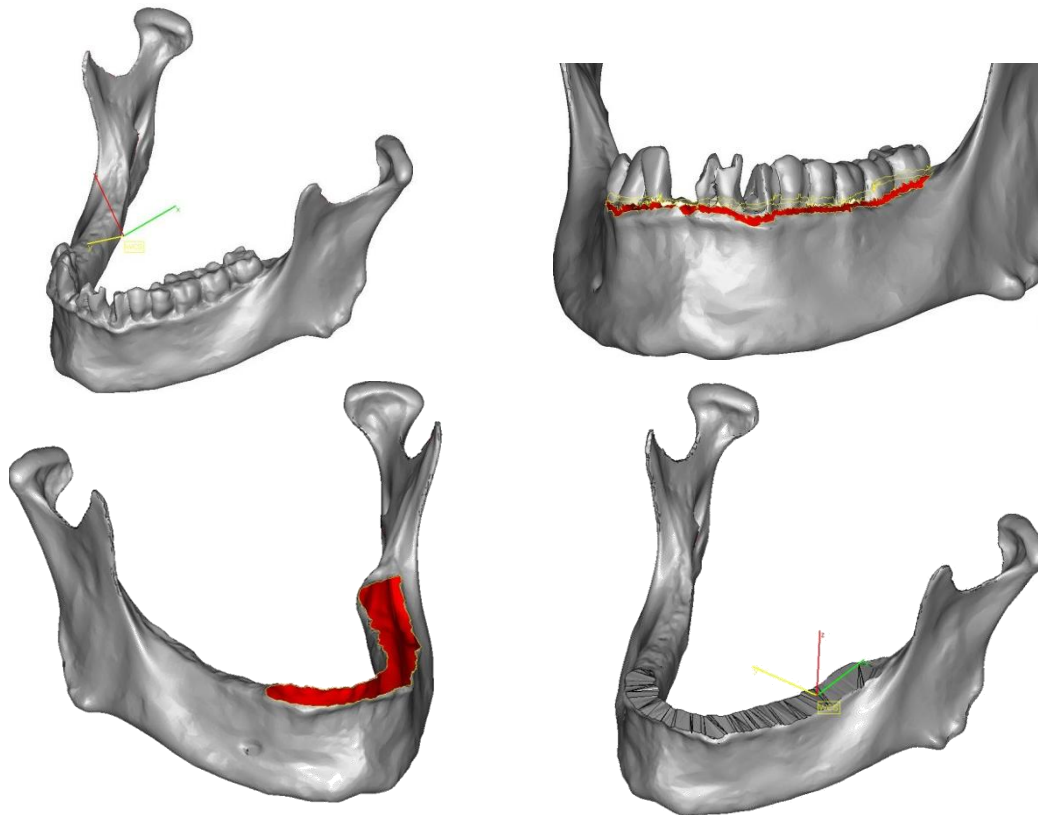


○ Software ATOS



3D SCANNER ATOS

- Polygonální síť (mrak bodů) – formát *.stl



3D TISK – RAPID PROTOTYPING

○ Popis 3D tiskárny Dimension

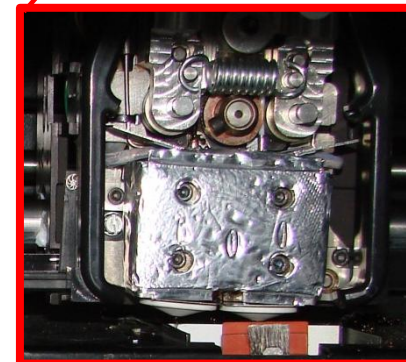
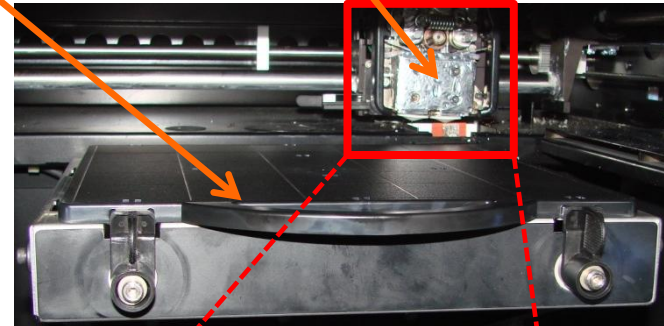


Display s ovládáním

Poloprůhledné dveře

Náplně

Základová deska Tisková hlava



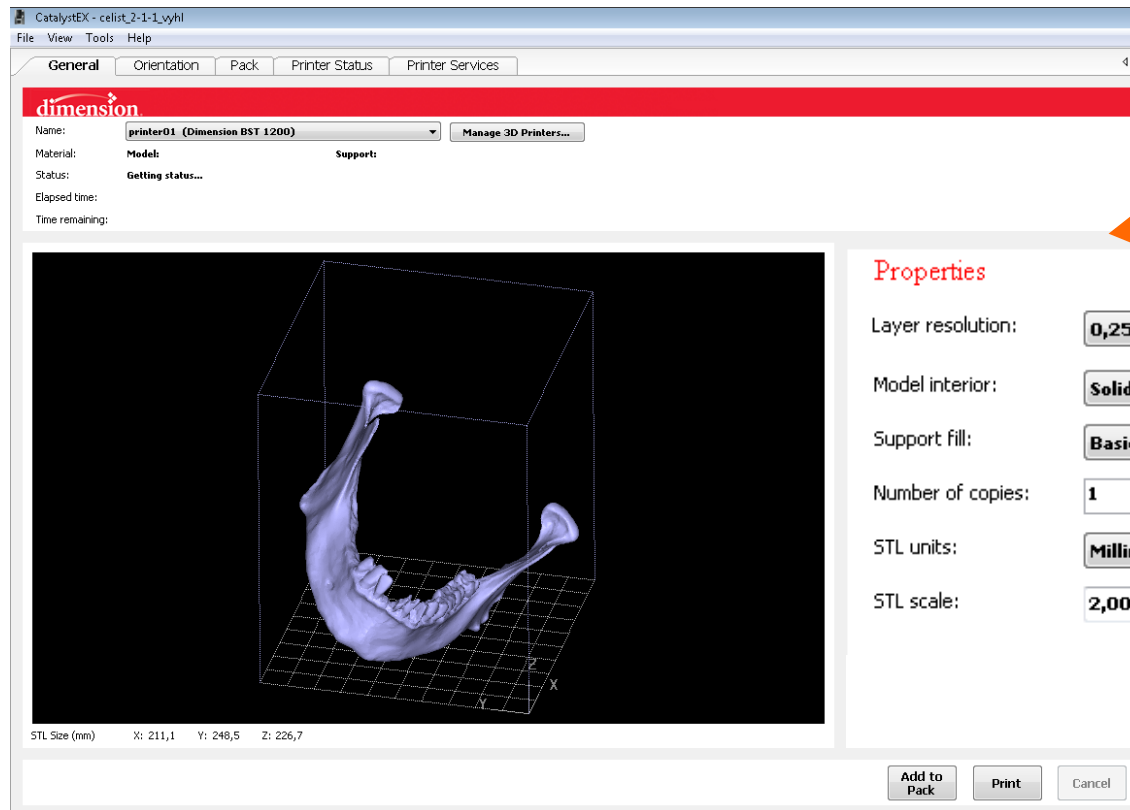
3D TISK – RAPID PROTOTYPING

- **Metoda: Fused Deposition Modeling**
- Příprava modelu
 - Software Catalyst EX (firma Stratatys)
 - Vstupní formát *.stl
- Typ tisku: výplň modelu
 - Materiál ABS Akrylonitril butadién styren
 - $R_m = 22 \text{ Mpa}$, $E = 1,627 \text{ MPa}$
 - Materiál navinutý na cívkách
 - Materiál netoxický



3D TISK – RAPID PROTOTYPING

○ Software Catalyst EX



Základní nastavení



3D TISK – RAPID PROTOTYPING

○ Umístění objektu

Posunutí

Natočení

Měřítko

Pohledy

Auto Orient

Option:

Orient Selected Surface:

Bottom

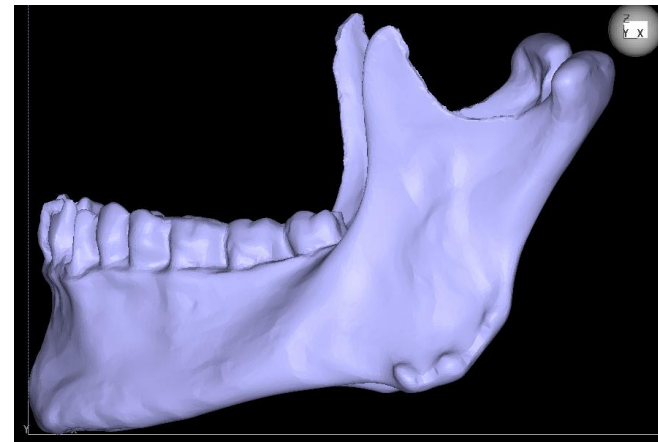
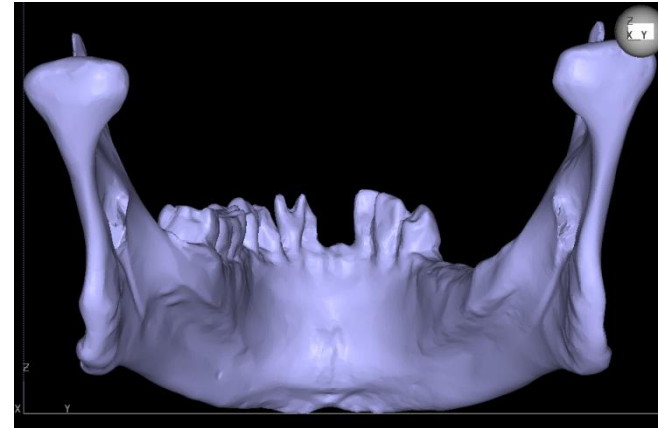
Top

Front

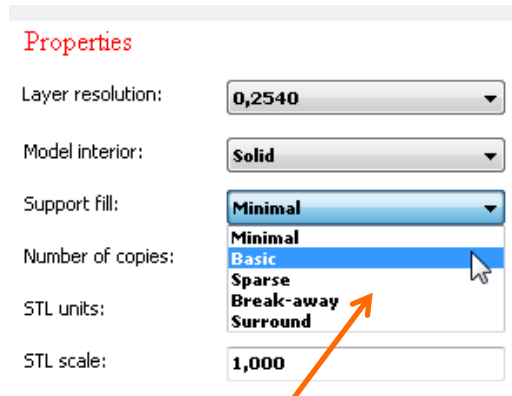
Degrees:

Rotate:

STL scale:

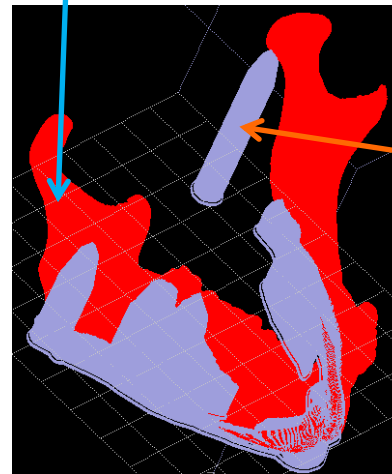
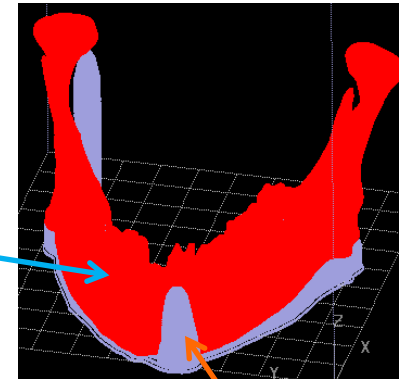


3D TISK – RAPID PROTOTYPING



Nastavení typu podpory

Model



Podpora



3D TISK – RAPID PROTOTYPING

Množství
materiálu

Čas

Pack Details

Name:

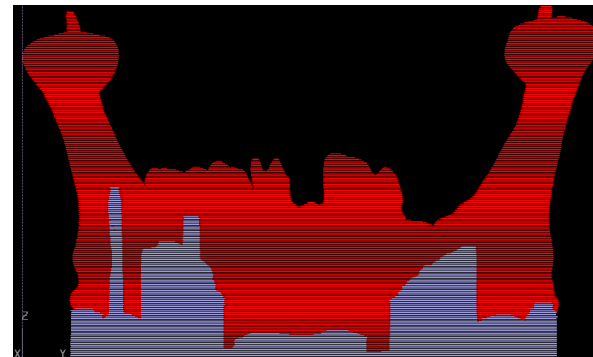
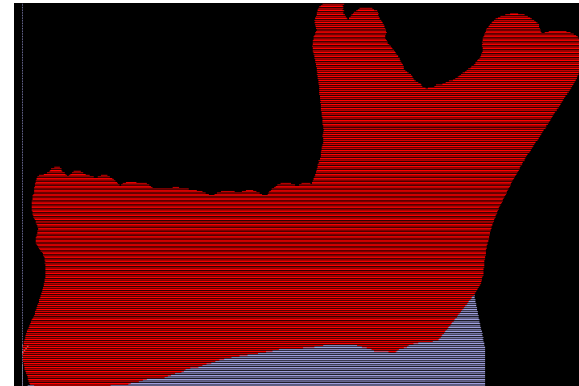
Model Material: **55,36 cm³**

Support Material: **13,08 cm³**

Time: **4:47**

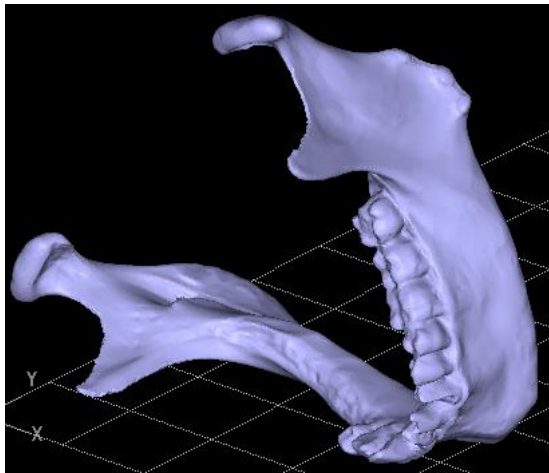
Notes:

ID	Name
1	celist_2-1-1_vyhl



3D TISK – RAPID PROTOTYPING

- Špatně orientovaný objekt



Pack Details

Name:

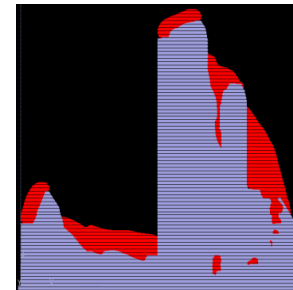
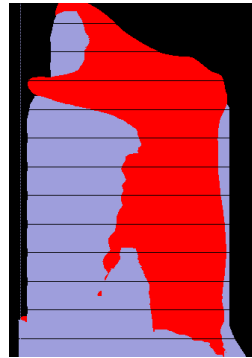
Model Material: **55,62 cm³**

Support Material: **67,04 cm³**

Time: **8:15**

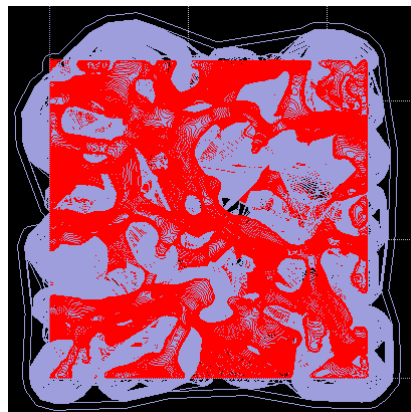
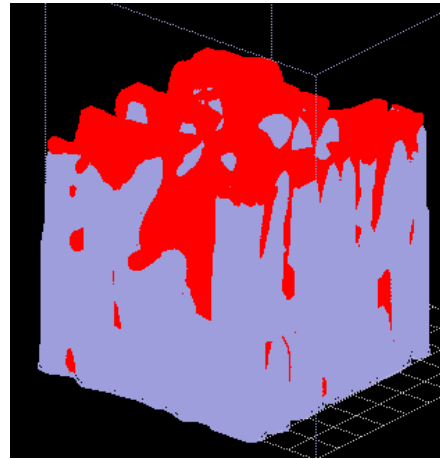
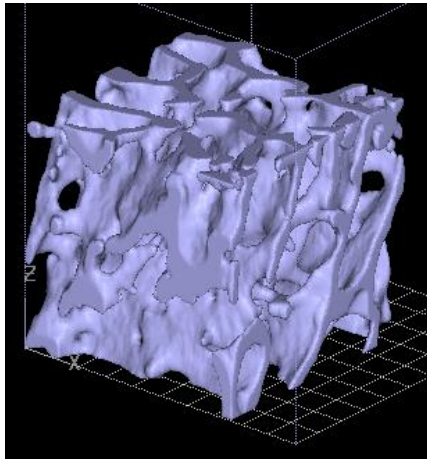
Notes: ...

ID	Name
1	celist_2-1-1_vyhl



3D TISK – RAPID PROTOTYPING

- Nastavení tisku spongiózní kosti



Rozměr 20x20x20 [cm]

Pack Details

Name:

Model Material: **1 920,65 cm³**

Support Material: **1 064,71 cm³**

Time: **105:23**

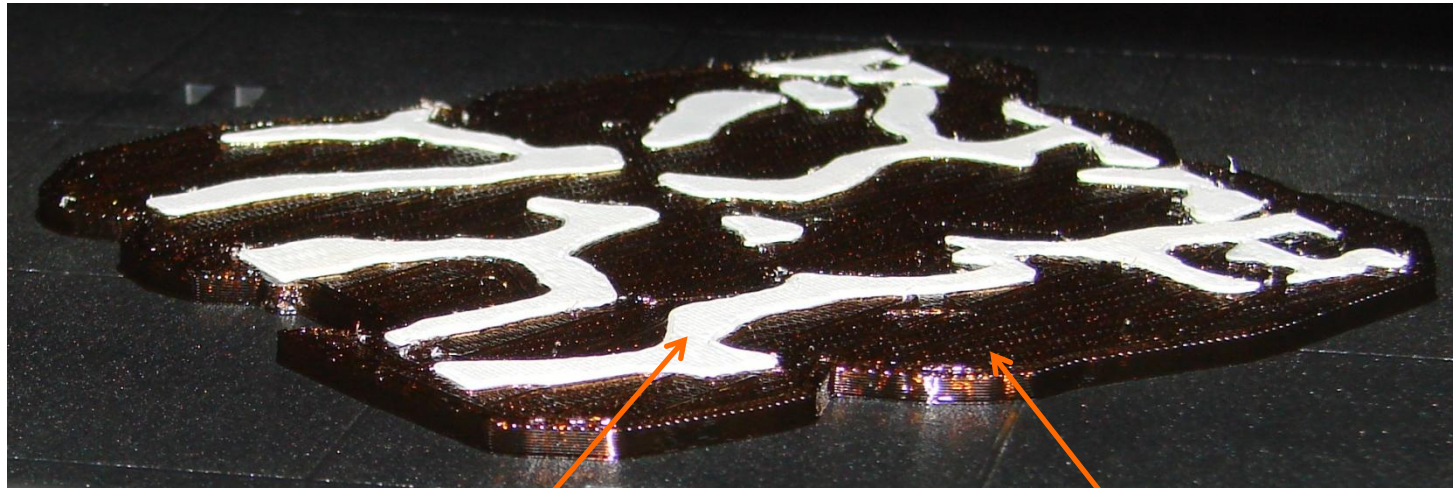
Notes: ...

ID	Name
1	spongioza02



3D TISK – RAPID PROTOTYPING

- Průběh tisku – položení první vrstvy



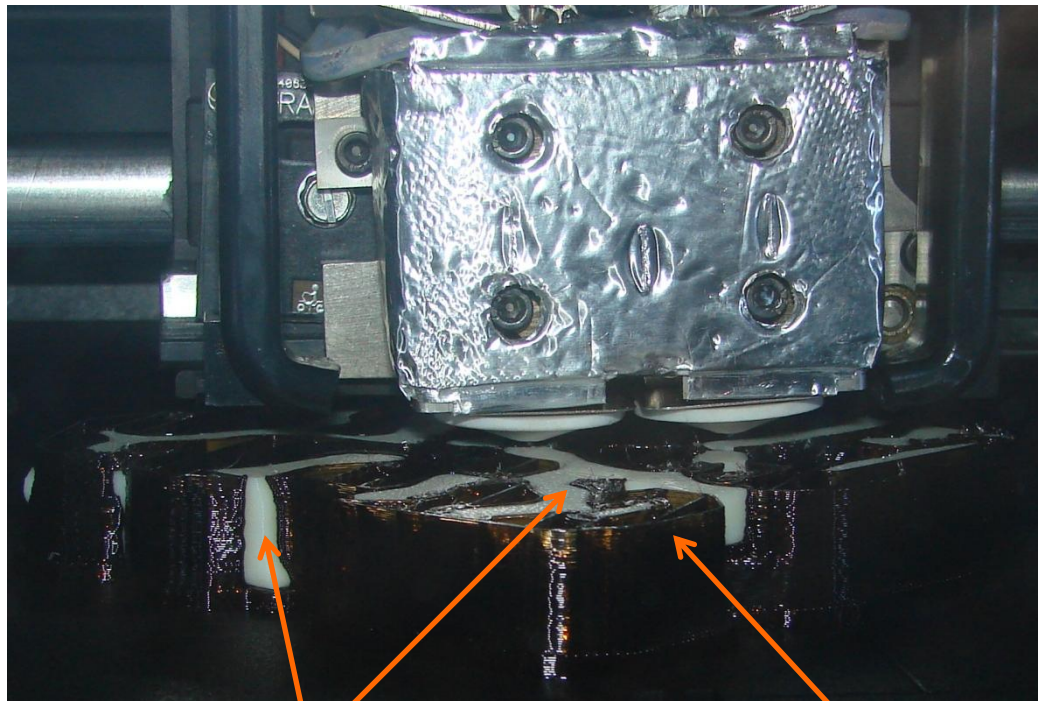
Model

Podpora



3D TISK – RAPID PROTOTYPING

- Průběh tisku – po 3 hodinách (10 %)



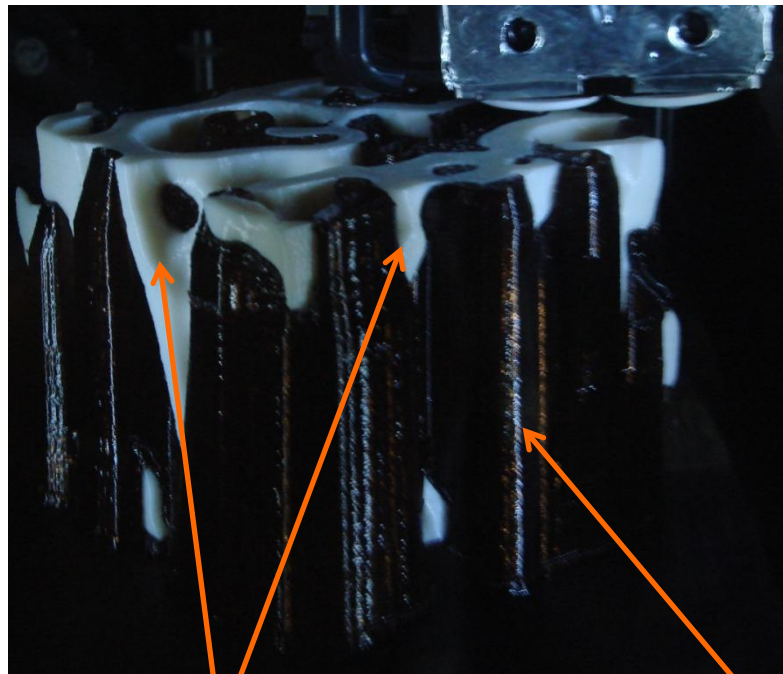
Model

Podpora



3D TISK – RAPID PROTOTYPING

- Průběh tisku – po 27 hodinách (90 %)



Model

Podpora



3D TISK – RAPID PROTOTYPING

- Hotový model – 30 hodin tisku

