

appropriate cad software

caad-module: Zprint

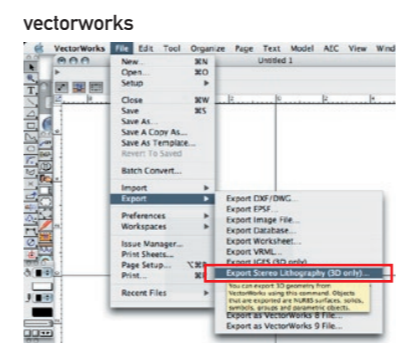
Zprint is installed on the windows machines in the computer clusters. it is not available on the macs.

in Zprint, you must import your project as an .stl file. most of today's cad software can export files in the .stl format. a good choice is vectorworks or formZ, even rhino.



cinema4D and maya can also create .stl files but some precautions must be taken: the project must be made of closed volumes, mesh objects or stitched shells. check the appropriate help files, web sites and manuals for additional info. archicad cannot create .stl files.

exporting as .stl



in the export stl options window, make sure to select binary as the file type, and leave the export quality as is (vectorworks).

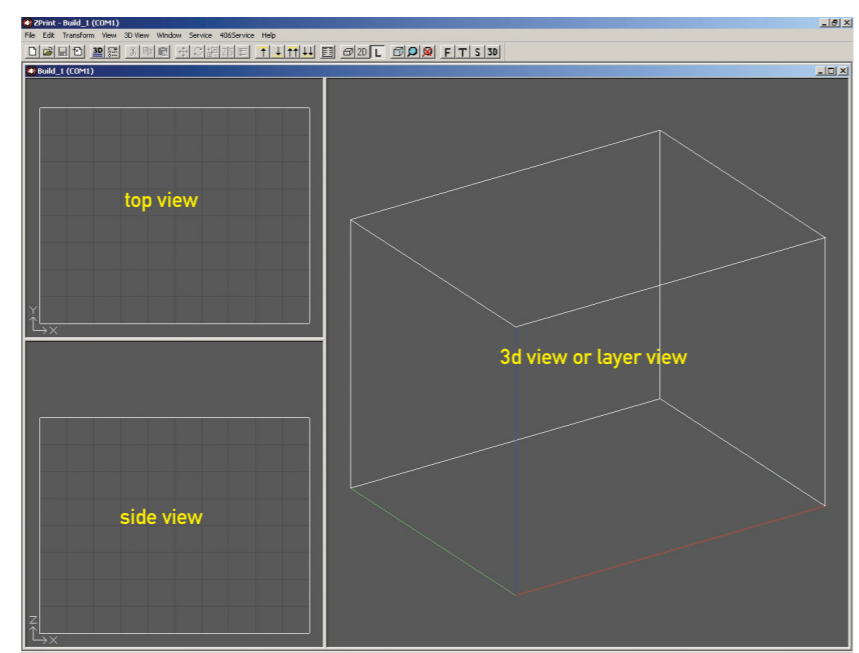
if the model is composed of 2 or more pieces, it is important that an .stl file be made for each piece, and not one file with all parts. this will allow for better distribution of parts in Zprint, saving printing time and money.

important! maximum size of parts: width 200mm x length 250mm x height 200mm



Zprint screen

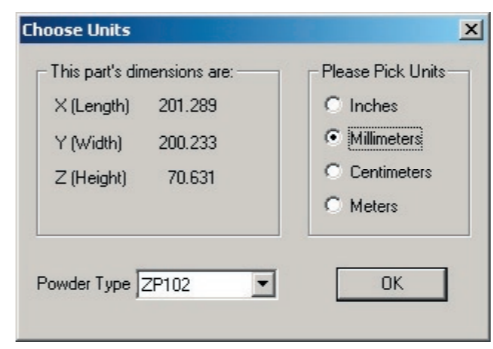
the screen is divided into 3 panels: in 3d view, click and drag with the mouse to navigate around the model.



opening an .stl file

to load the file: in the menu, go to: file > open > choose your file > click on open. in the choose units window, select the appropriate unit - powder type should be zp102. check that the part's dimensions fit the maximum print volume.

if the wrong unit is selected, the part is out of bounds and Zprint asks to re scale it. either cancel and open the file again, selecting a smaller unit, or scale down the model by entering a percentage value or the desired dimensions.

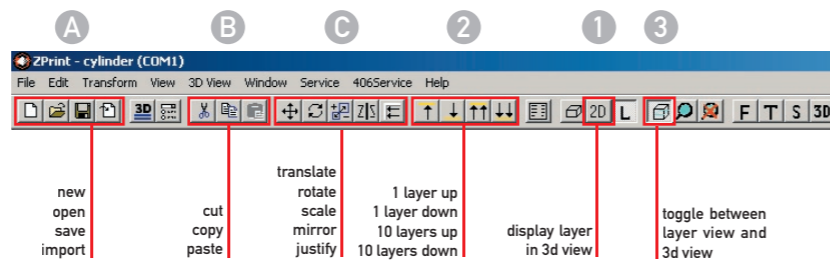


the model now appears on screen. since there are no multiple undos in Zprint, save often! use the following format for your file name:

yyyymmdd_username_extras.zbd
 |
 additional info here: version, time, etc.

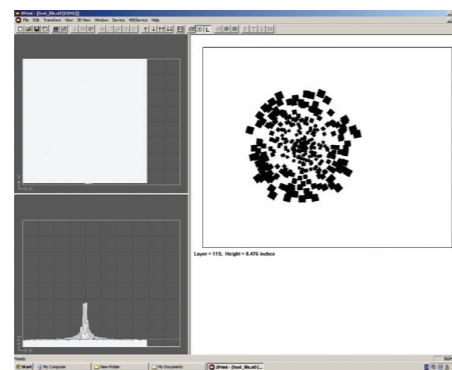
the resulting file has a .zbd suffix (Zprint)

the toolbar



the help menu opens the Zprint manual in pdf format. feel free to print it.

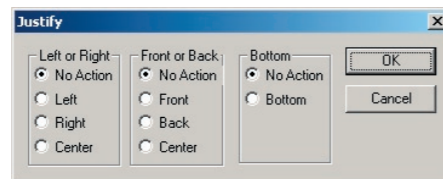
checking the model



select the layer view [1] and go through the layers of the model [2], checking that there are no irregularities or incoherences (minor ones are not important). if this should be the case, re-export the project from the cad software and open it again in Zprint. it may be necessary to modify it before re-exporting it.

clicking on [3] displays the layers in 3d view.

justifying



the justify options allows parts to be positioned appropriately and precisely within the boundaries.

posting the file

once the file is ready, upload it to your personal n.ethz-homeaccount at the following address:

<ftp://rz.n.ethz.ch/homepage/download>

and send an email to the digitalwerkstatt: digitalwerkstatt@arch.ethz.ch. no files please! for uploading, use regular ftp client software such as fetch (mac) or ws_ftp light (win). more info (in german) is available at:

<http://it.arch.ethz.ch/howto/allg/n-ethz.html>

check that the file is correctly uploaded. in a web browser, go to:

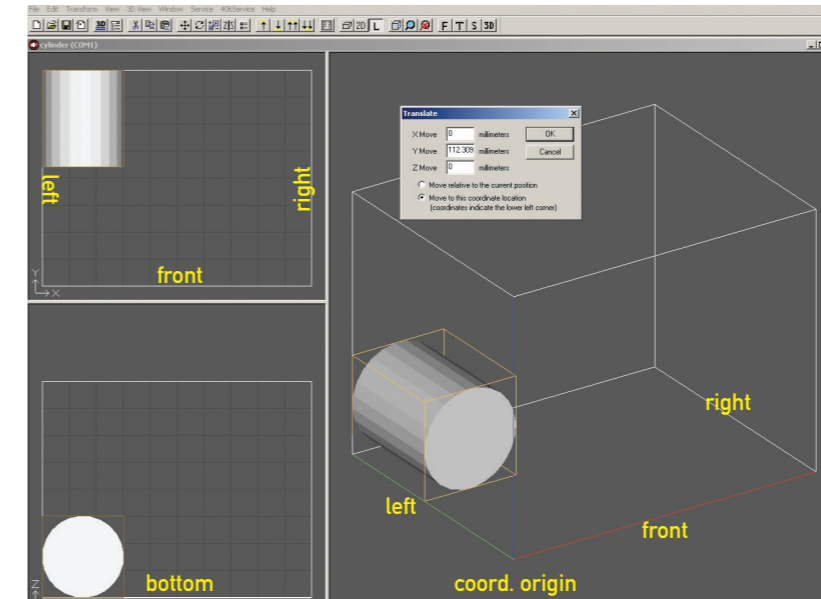
<http://n.ethz.ch/student/<username>/download>

a directory should appear with the .stl file in it.

manipulation

a second model - or model part - can be added to the present set-up by simply importing it [A]. it is important that the parts do not touch each other - place heavy parts under lighter parts!

a model can be cut or copied [B], translated, rotated, scaled, mirrored, or justified [C]. select the model or part and apply the necessary action. choose absolute or relative origins, where applicable.



example

