



3D PRINTING TIPS & TRICKS

Tips and tricks to achieve the best 3D print results

TRACTUS3D

5 STEPS TO SUCCESSFUL 3D PRINTING

1

Clean print surface.

Wipe clean with a Isopropanol (Alcohol) dampened cloth and wipe dry with a clean cloth.

2

Clean exterior of nozzle.

Remove remainders of filament with tweezers or cloth before starting each print

3

Check the filament

Make sure that the right filament spool is placed on the printer. It is important that you are printing with the right material, corresponding with the settings in the 3D printing software.

4

Wait for first layer to finish.

The success of a print is mostly depending on the first layer. Make sure first layer is finished properly before leaving your printer unattended.

5

Let print heads cool down.

Below 60 °C before turning off the printer, to prevent clogging of print heads.

GENERAL 3D PRINTING TIPS



Make sure build plate is leveled.

To ensure the first layer sticks to the build plate and has an even thickness, it is important to perform auto build platform calibration before printing.



Never leave print heads at elevated temperatures.

Leaving the heaters on for elongated periods of time without extruding could cause clogged print heads.



Flush out old material first.

Extrude approx. 200 mm of new material to ensure old material is fully removed to prevent clogs when switching to different filament.



Use latest slicing profiles and firmware

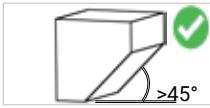
Make sure to check for updates regularly. Using the latest profiles and settings improves performance.



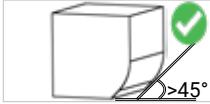
Use a wipe tower when printing dual head prints

Using a wipe tower results in 'clean' prints. The wiper tower is standard enabled but be sure to always double check before printing.

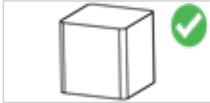
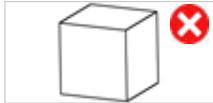
DESIGN TIPS FOR 3D PRINTING



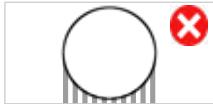
Create overhangs greater than 45° with respect to the print surface.



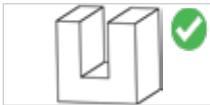
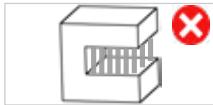
Avoid rounded corners touching the buildplate, create a chamfer to have at least an angle of 45°.



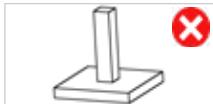
Make small fillets to improve print results.



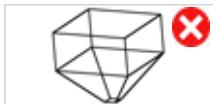
Divide objects in parts, to prevent support material and reduce print time.



Reorient part to prevent support material to save material, time and post-processing time.



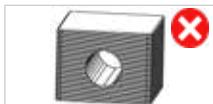
Apply fillets to reduce stress and increase strength on small pillars and features.



Reorient model, for largest adhesive surface to build plate. Reduce chance to tipping over objects.



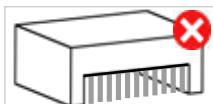
Avoid small surface to volume ratio
Minimum surface area 5x5mm
Ratio (length or width)/height < 1:5



Orient model for maximum strength. Holes are stronger when printed in plane.



Tension in plane of layer is much stronger than tension in direction of layer.



Bridges can be unsupported when bridge is larger than 25 mm, support material is recommended.

CONTACT

Please never hesitate to reach out to us.



Company name	Tractus3D
Year of establishment	2015
Address	Bernseweg 14 5324 JW Ammerzoden The Netherlands
Phone	+31 (0)418 71 20 52
Email	info@tractus3d.com
Website	www.tractus3d.com