

Viper™ Pro and iPro™ SLA® System Best Practices

(assumes 3DPrint 0.99.55 software)

1. Never access the bff file remotely (build only from the system hard drive).
2. Don't run build time estimates on the SLA system while it's building parts. Run your build time estimates on your desktop instead. With 3DPrint 99.55, the build on the machine will be updating the BTE for that build, continuously.
3. Don't build the same bff on both sides of a dual-vat system at the same time. You can copy and re-name the file to build the same file, if needed.
4. Avoid odd characters in bff file names (* % \$ @ etc).
5. Avoid bff file names longer than 20 characters.
6. Identify resin in BFF file names for dual vat systems. An alternative would be separate BFF folders for each side of the machine if resins are different. This prevents mixing BFF files with the incorrect resin.
7. There are two scale values on the system. One is "machine" scale, and the other is "build" scale. They are added together when the part information is calculated during part building. It is best to use only one. We recommend using "machine" scale as standard. If you have a specific single-build-related situation, modify "build" scale for that specific instance, and then return it to 1.000.
8. Avoid performing other activities on the control computer while the system is building (including flash drive use).
9. Be patient with response time on the control computer. It is controlling many functions and can be slow to respond. Don't repeatedly click.
10. Deleting parts: Always pause the build, wait for pause and acknowledge any message(s). In the parts list, highlight one file name at a time, select Remove Part button in the "Build Settings" tab, acknowledge yes to remove part. Follow the same process until all desired parts have been deleted. Resume building by pressing Play. The system will delete the support related to the part, as long as the support has the same name as the part (same name as part, with _s). Note that in order to delete parts, the build must have started (vectors must have been drawn to the screen) before parts can be deleted. Don't try to delete parts until at least 5 layers have been drawn.
11. Keep platform latch below resin surface even when the system is not building parts.
12. Build start position: with the vat already fine leveled, the resin should be half in, half out of the holes in the platform when the platform is at the build start position.
13. Keep system doors closed when build chamber access is not required.
14. Make sure your Maintenance department knows that special bulbs and/or special sleeves are required on lights in the SLA lab.
15. Practice good housekeeping with liquid resin. Be particularly aware of resin on gloves, it migrates all over systems and keyboards. Be willing to use lots of gloves.
16. Platforms should be very clean. Leftover cleaning solvent can cause resin contamination as well as bubbles in the resin. Confirm rigorously that no solvent remains on platforms and that they are completely dry.
17. When cleaning inside the system, minimize alcohol use, and never let solvent drip into the vat.
18. Create a user account and login on the Viper Pro systems, rather than administrator access. When creating this, make sure it is set up to have write privileges to the 3DPrint directory.
19. Reboot the control computer on the system once a week.
20. Perform resin viscosity measurements once a week.
21. Purge unnecessary bff files and build log files from the systems once a month. Close 3DPrint software to purge files.
22. Stir all vats at least once a week.
23. Recirculate resin regularly between builds. Note that if the resin has not been stirred properly since installation, the recirculation system may not function properly or may fail. Contact your 3D Systems Field Service Engineer if you have any questions about recirculation.