



CIB #: 12-10  
 Date: 27 June 2012  
 Status: Non-confidential

Subject: Tips & Information for part building with  
 Accura® ClearVue™ Free (SL 7870) resin on  
 iPro™ 8000/9000 systems

- Software version:** Use of the most current software version is recommended, to ensure compatibility with newly-created build styles.
- 3DPrint™ software entries:** Each material on a SLA system uses specific parameters in the 3DPrint software. The critical specific parameters are Dp and Ec, shrink, cured linewidth and resin temperature. See the 3DPrint Users' Guide for details. These material-specific values are shown below.

Recommended Starting Parameters

	<b>iPro™ 8000/9000 Systems</b>
Dp (mils)	7.2
Ec (mJ/cm2)	10.6
Baseline Scale Factors (x, y, z)	1.0014, 1.0014, 1.0000
Baseline Linewidth Compensation Value	0.025 mm (0.001")
Recommended vat temperature	28°C

- Part Supports :** Accura ClearVue Free (SL 7870) support parameters have been optimized for successful part building, and produce supports that are described as "hard and crisp." Modifying supports may cause build crashes, so proceed with caution if you modify support parameters. This material has high green strength, resulting in supports which can be difficult to remove without damaging the part surface, especially if the supports are crowded. Therefore, review the automatically-generated supports and edit as needed to avoid overcrowding.
- Hatch Overcure:** Hatch overcure has been optimized for mechanical properties and build speed. It is highly recommended that the hatch overcure values not be reduced from default. However, hatch overcure can be reduced to increase build speed. Reducing HOC from 0.006" to 0.004" can be explored. In general, this increased throughput comes at the cost of accuracy and mechanical properties of both green and post cured parts.



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5. **Bubbles:** Due to the nature of this resin, micro bubbles may be seen in some parts with thin walls (less than 0.25 inch or 6.35 mm – approximately the depth of the Zephyr<sup>™</sup> recoater). To minimize generating bubbles in your part, we recommend orienting the length of the thin-walled feature parallel with the Y axis.
6. **Part cleaning:** We recommend cleaning parts ONLY with IPA. Use of other solvents is not recommended, as they may cause surface gumminess or tackiness. Follow this procedure:
  - Carefully remove parts and supports from the platform.
  - Place parts in the IPA bath for 5 minutes
  - If needed, brush downfacing surfaces/features with a soft toothbrush to remove residual resin.
  - Rinse again with fresh clean IPA – just a quick rinse of about 10 seconds to remove the last residue.
  - Air dry to complete cleaning, using low-pressure air especially to clear liquid out of any crevices in the part.

**Note:** Care should be taken to ensure that the parts are not left in IPA for more than 15 minutes total time, to avoid the part distorting due to the solvent attacking the cured material.

**Note:** TPM will clean parts effectively, but parts will have a hazy surface (not clear), and may even be gummy or tacky. TPM is not recommended due to this effect on the finished part.
7. **Support removal:** It is preferable that supports are removed prior to UV post cure, to avoid damaging the part surface.
8. **Post Curing:** Post-cure the parts in the ProCure<sup>™</sup> post-curing apparatus for 45 minutes on each side.
9. **Resin Stabilization:** Like the other resin types, Accura ClearVue Free needs to be stabilized. Please follow 3D Systems Resin Stabilization guidelines to maintain the best performance and prolong resin life.