SCA 1200 HT NaOH parts bath

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Tool Type: “3D print support Dissolve”	
Location: “TEXT HERE”	
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Description: “Dissolves support filament for F270”	
Manufacturer: “PADT”	

About

This tool is used to dissolve the support filament printed by the F270 FDM 3D printer. Using a heated solvent, parts can be loaded into the main bucket or suspended in a smaller cage during the support removal process.

Detailed Specifications

- Available Temperatures: 50, 60, 70, 85 degrees C
- Auto overfill alarm
- 46.3 L tank

Safety Concerns

This tool makes use of a heated solvent! A lab coat, face shield, and nitrile gloves must be wore by the user whenever the SCA 1200 HT is to be opened to protect for solution and vapor fumes. In case of contact with solution flush eyes, and skin with water, remove all contaminated clothing, and get medical attention immediately. See SDS below.

Operating Procedures

1. Remove completed part on build tray from F270 3D printer
2. Remove part from build tray, making sure to scrape build tray free of ALL residue
3. Dawn lab coat, nitrile gloves, and a face shield
4. Open lid on SCA 1200 HT
5. Slowly lift large basket, allow time to for excess solution to drip back into SCA 1200HT
   NOTE: If solution rises above specific level alarm will sound, this is common when lifting or lowering basket and means you're moving too fast!
6. Rotate basket 90 degrees to rest on lip while adding part
7. Open basket, place part inside (if part is small, consider using smaller stainless steel cage located near by
8. Close basket and SLOWLY lower back into solution (alarm will sound if lowered too quickly.
9. Select desired temperature and use the “Set” button and arrows to select desired time
10. Press power button to begin wash
11. Follow steps 3-6 to remove part, followed by steps 8 to replace basket
12. Part should be allowed to drip, before being rinsed in sink with plenty of warm water

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SCA-1200HT Solution Change Safe Operational Procedure

This SOP is compiled from the Stratasys FDM Best Practice handbook, under FDM Support Removal. This manual can be found in drawer F1 Stratasys F270 tools. The SOP also draws content from the SCA-1200HT manual, found on the Innovation Workshop wiki under the relevant tool page.

Safety Considerations

Wear a lab coat (found in Elings 2442), face shield, and gloves (found next to the machine) before any operation involving the SCA-1200HT.

Ensure the machine is off, the temperature is below 30 degrees, and the device is unplugged before any work. The solution is basic. Be careful to not spill the solution and be cautious of splashes when manipulating the fluid.

Water spills are a big problem in Elings hall, so any operation involving the draining or addition of liquids must be closely monitored to prevent overflow.

Operation

A) Identifying the need for solution change

The recommended replacement cycle for the solution is after removing 410cc of support (~9kg) per

11-gallon tank. In practical terms, the following observations indicate the need to change the solution:

1) The tank is cloudy, and white parts change color after cleaning.

2) Parts display residue, stick together, or have malfunctioning moving parts.

3) Support material is not removed after the recommended wash routine (8 hours, 70c).

4) pH level, measured with a test strip, is below 11.5.

B) Drain the tank of the old solution

The solution has been verified by environmental health and safety for drainage through the sink located next to the device.

1) Ensure that you are equipped with the appropriate gear (gloves, lab coat, face shield).

2) Unplug the machine from the wall plug.

3) Take the tube attached to the outlet valve (visible at the bottom of the device) and place it in the sink.

4) Rotate the valve open and hold it open until the liquid is entirely drained.

5) Close the valve.

C) Clean the tank

1) Remove large chunks of material from the tank.

2) Take out the strainer and clean it using a brush and warm water.

Note: Never remove the strainer when there is liquid in the tank - this will allow debris to get into the outlet tube.

3) If there is significant residue on the body, use mild soap and water with a piece of cloth or sponge to wipe the residue away.

D) Refill the tank with solution

1) Open the tank lid

2) Place the hose attached to the Deionized water tap inside the tank.

3) Turn the water open and fill the tank up to the minimum fill line, which should be visible on the rear support bracket. There is a maximum fluid line that should not be exceeded.

4) Depending on the used concentrate:

If using Ecoworks (Located in drawer F6): add 4 packets of A (2) and B (2) components to the water.

Clarification: package refers to a foil bag; each package contains a few pouches of powder that should be dropped into the water.

If using WaterWorks (Located on the shelf next to the printer): add 850g or ⅘ of the bottle to the

water. Be sure to seal the bottle afterward.

iv) Turn the heat off and start the device, allowing the pump to circulate the solution for an hour. After this, the machine is ready for operation.

Reference Documentation

sca_1200ht_user_manual.pdf

msds-010-waterworks-concentrate-sds-400625-b-en-aghs-p400sc-wateworks-cleaning-solution.pdf

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Training Documentation

FDM Training SOP

sca-1200ht_cleaning_apparatus_solution_change_sop.pdf
