SUP706 / SUP706B
Support Material

Overview

SUP706™ and SUP706B™ are support materials that dissolve in a solution of caustic soda and sodium metasilicate and can be removed easily.

This document describes recommendations and tips for achieving optimum quality and advanced mechanical properties when printing models with these support materials.

- Pre-printing tasks
- Support removal methods

Printing Recommendations and Tips

Supported Printers

SUP706/706B can be used on the following printers:

- Objet30™
- Objet260 Connex1, 2, 3™ Series/Objet260 Dental™/Objet260 Dental Selection™
- Objet350 Connex1, 2, 3™ Series
- Objet500 Connex1, 2, 3™ Series/Objet500 Dental Selection™
- J7™ Series
- J8™ Series

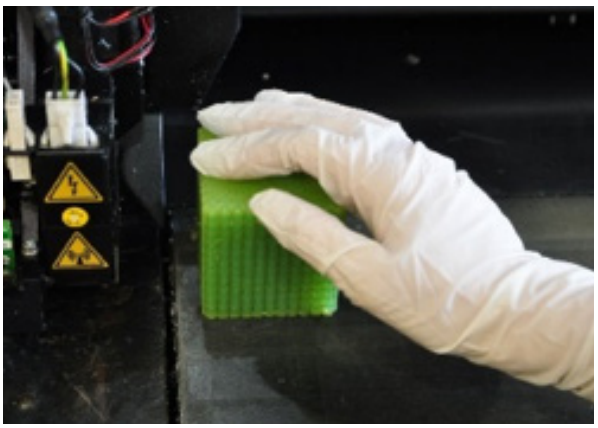

Figure 1: Model printed using SUP706B.

Best Practice

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Pre-Printing Tasks

1. Before every print job, clean the roller waste collection. For instructions, refer to “Cleaning the Roller Waste Collector and Inspecting the Roller Scraper” in the User Guide.
2. Load the support cartridge(s) and run the Material Replacement wizard.
3. Run the Head Optimization wizard.
4. The default grid style used for the support is Lite Grid. Change the grid style to Heavy Grid (Figure 2):
   - When printing with Tango™ materials.
   - When the model includes floating parts that are more than 30 mm high (see Figure 3).

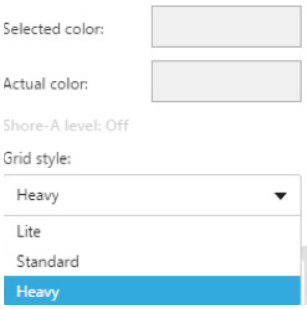

Figure 2: Grid style selection in GrabCAD Print™ (sample).

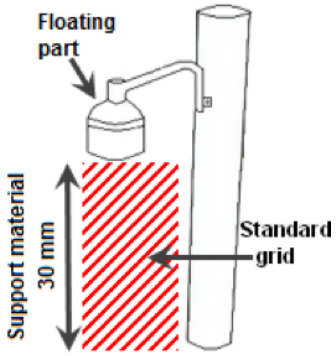

Figure 3: Models with floating parts supported by SUP706/706B.

Support Removal Methods

There are three methods for removing the support material.

Method 1: Dissolve Support Material

a) Prepare a base solution of 2% sodium hydroxide (NaOH) (caustic soda) and 1% sodium Metasilicate (Na_2SiO_3) in a cleaning station.

Caution: Never pour water onto caustic soda. Mixing it with water generates heat that could ignite other materials. Always add caustic soda to water. Always take adequate safety precautions and always use nitrile gloves and protective goggles when handling caustic soda and models soaked in it.

b) Soak the printed model in the cleaning station until the support material has dissolved.

Important: Before removing the printed model, drain all liquid from the basket. SUP706/706B dissolves into the solution and eventually saturates it, reducing its effectiveness. Replace the solution when the support material comprises 15% of the solution, typically after several weeks of use.

c) Rinse the printed model under running water and gently rub the surface with a sponge.

d) Optional: Dip the printed model in a 15% glycerol solution for 30 seconds and then place it on a mat to dry. This strengthens the printed model.

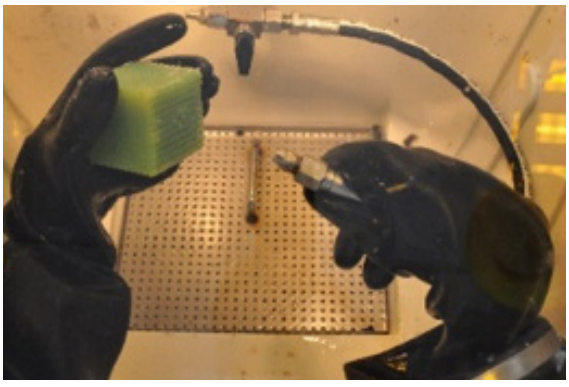
Figure 4: Cleaning the part in the water jet.

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Method 2: Break-Away and Dissolving Support Material

Carefully break away the support material from the printed model by hand, and then use the "Dissolve" method described above.

To prevent deformation in delicate models, hollow models and models with thin walls:

- Use relatively short cleaning cycles when dissolving.
- Remove from the cleaning station soon after the cleaning cycle is complete.

Method 3: Remove Support Material with Water Pressure

This method requires a water jet unit. Cleaning time depends on the complexity and dimensions of the printed model.

Support Removal Recommendations

Generally, you can use any of the above support removal methods that best suits your needs. However, in some cases, to ensure optimum results, a specific method is preferred. Follow these recommendations for selecting a support removal method:

- Models Printed with Rubber-Like Materials — For models printed with these materials and their digital materials, use the Support Removal with Water Pressure method (see Method 3, above) and follow the support removal instructions in the relevant material Best Practice document.

Figure 5 and 6: Peeling the support material from the printed model.

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- Hollow Models, Delicate Models and Thin-Walled Models — For hollow and delicate models, use the break-away and dissolve support material method (see Method 2, on page 3).
- Model Printed with Standard or Heavy Grid Style — For models printed with a standard or heavy grid style, use the Support Removal with Water Pressure (see Method 3, on page 3). Avoid soaking models with these grid styles in cleaning stations (such as DT3 or CSIIP) to prevent the cleaning station filter from clogging.

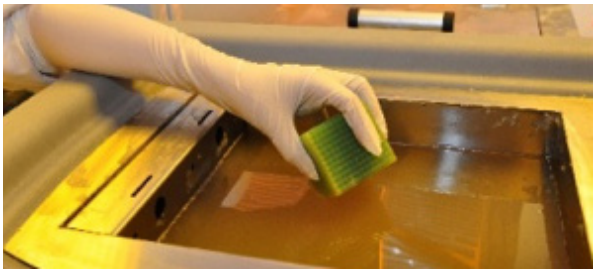

Figure 7: Immersing the printed model in the cleaning station.

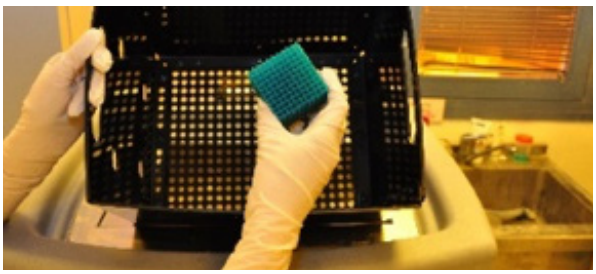

Figure 8: Removing the printed model from the cleaning station.

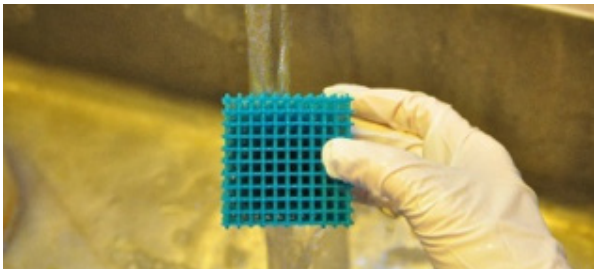

Figure 9: Rinsing the printed model under running water.

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