

ProJet® 6000 and 7000

3D Printer



VisiJet® SL HiTemp

Part Building and Post-Processing Guide

General Information

Material Handling and Safety

To protect your own safety and the safety of others, always make sure to read and follow the information provided on the MSDS/SDS for your material. Dispose of unused material properly, verifying that you follow applicable regional and local regulations. Local hazardous waste disposal companies can provide appropriate services for this disposal.

System Care and Cleaning

You will want to keep your ProJet 6000 or 7000 clean of any material drips and spills. Do not use any strong acids or base cleaners (for example, no ammonia-based cleaners, no bleach). Only a small amount of these kinds of products can affect the material to the point that acceptable parts can no longer be built. Instead, use a small amount of isopropyl alcohol on a paper towel or soft cloth to clean your window and any drips or spills. Dispose of used towels/cloths appropriately according to your local waste handling requirements.

VisiJet® SL HiTemp

1. **System type:** VisiJet SL HiTemp is used on ProJet 6000 and 7000 systems.
2. **Basic system configuration values:** Materials may require different settings for optimum performance. The settings for this material are:

Attribute	Value
Chamber heater	28 °C
Cart reservoir heater	28 °C
Recommended print tray material heater	28 °C

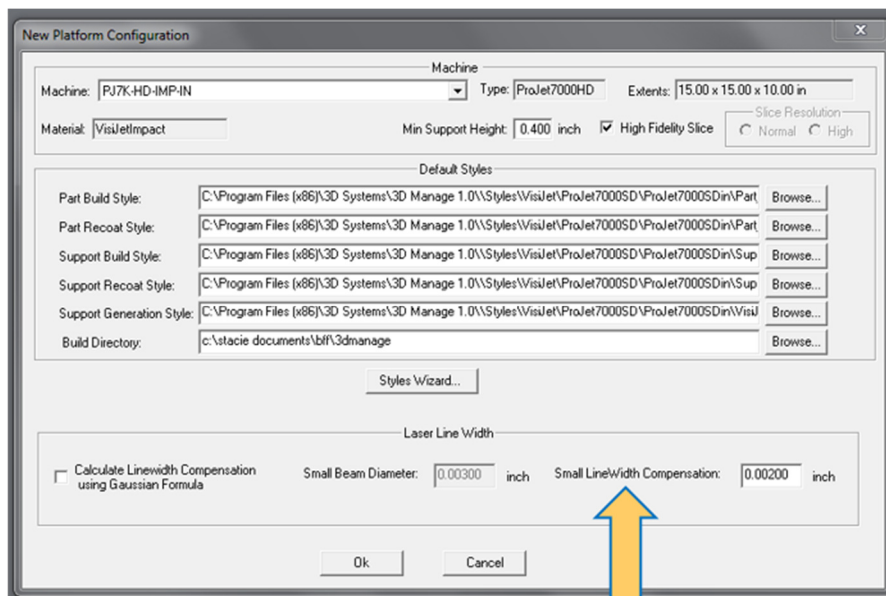
3. **Configuring files for accuracy:** You will enter specific starting values for your build files in 3DManage and on your system to influence part accuracy. Some of these values will also depend upon the build mode you are using. You will make changes that are specific to your system, but appropriate starting values are shown below.

ProJet 6000

Attribute	Entered where	UHD mode
Baseline Scale Factors (x, y, z)	ProJet 6000 printer setup	1.002, 1.002, 1.000
Baseline Small linewidth compensation	3DManage machine setup	0.005 inch (0.0127 mm)

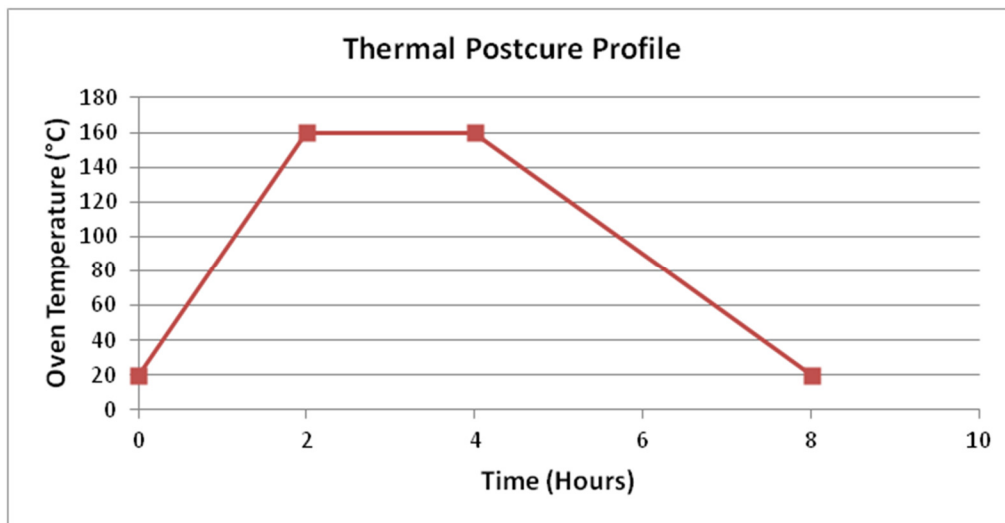
ProJet 7000

Attribute	Entered where	UHD mode
Baseline Scale Factors (x, y, z)	ProJet 7000 printer setup	1.003, 1.003, 1.000
Baseline Small linewidth compensation	3DManage machine setup	0.0015 inch (0.0381 mm)



3. **Differential Shrinkage:** Some geometries may show geometry dependent shrinkage (differential shrinkage). If the differential shrink must be reduced to the absolute minimum, increase post hatch delay (PHD) from default of 15 seconds to 30 seconds or more. The provided styles allow PHD to be set from zero to 60 seconds.

4. **Software version:** Unless otherwise directed, always use the latest software version. Enhancements are often added which allow the system to build in a fully optimized way.
5. **Part cleaning:** Parts must have excess VisiJet material removed prior to post-curing.
 - a. Drain excess VisiJet material from the parts for 10-15 minutes to remove most of the uncured material.
 - b. Immerse parts in TPM and agitate for a minimum of 20 minutes (maximum 90 minutes). Time required will depend on geometry. It's important to make sure the parts are thoroughly clean, or excess material will get cured into crevices or onto surfaces, affecting part resolution and/or accuracy. Parts may be cleaned on the platform, or off the platform.
 - c. Remove parts and drain excess TPM back into your tank.
 - d. Rinse parts with water, using water spray (if available) to fully remove TPM and excess diluted VisiJet material.
 - e. Air dry parts. You may use compressed air (low pressure) to dry the part and remove liquid from crevices.
5. **Support removal:** We recommend that supports be removed prior to post-curing the part.
6. **Post-curing:**
 - Most geometries are self-supporting, but use good judgment based on your specific parts to determine if additional support is required during the post-curing operation. Take care when orienting parts in the post-curing apparatus to avoid sagging or other deformation. Supporting the part with loose sand is suitable.
 - Post-curing for 45 minutes each side (90 minutes total) is recommended.
7. **Thermal Post curing:** Parts built in VisiJet SL HiTemp material may be thermally post cured to achieve enhanced thermal resistance. This is particularly beneficial for higher temperature applications. In order to thermally post cure a part, treat as follows:
 - a. Clean and UV post cure as normal.
 - b. Place the part in a programmable thermal oven with sufficient support material (typically vermiculite or sand) to prevent sagging.
 - c. Slowly raise the oven temperature to 160° C (320° F) over a period of approximately 2 hours.
 - d. Hold the temperature for at least 2 hours, depending on the thickness of the part. Thin parts, those around 3mm (~0.125"), require only 2 hours at elevated temperature. Thicker parts will require more time. Your goal is to have the entire part mass reach equilibrium.
 - e. Shut off the oven, and slowly return the temperature to room temperature, over approximately 4-8 hours. It is important not to cool parts rapidly as thermal shocking may occur and result in cracks in the part.



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