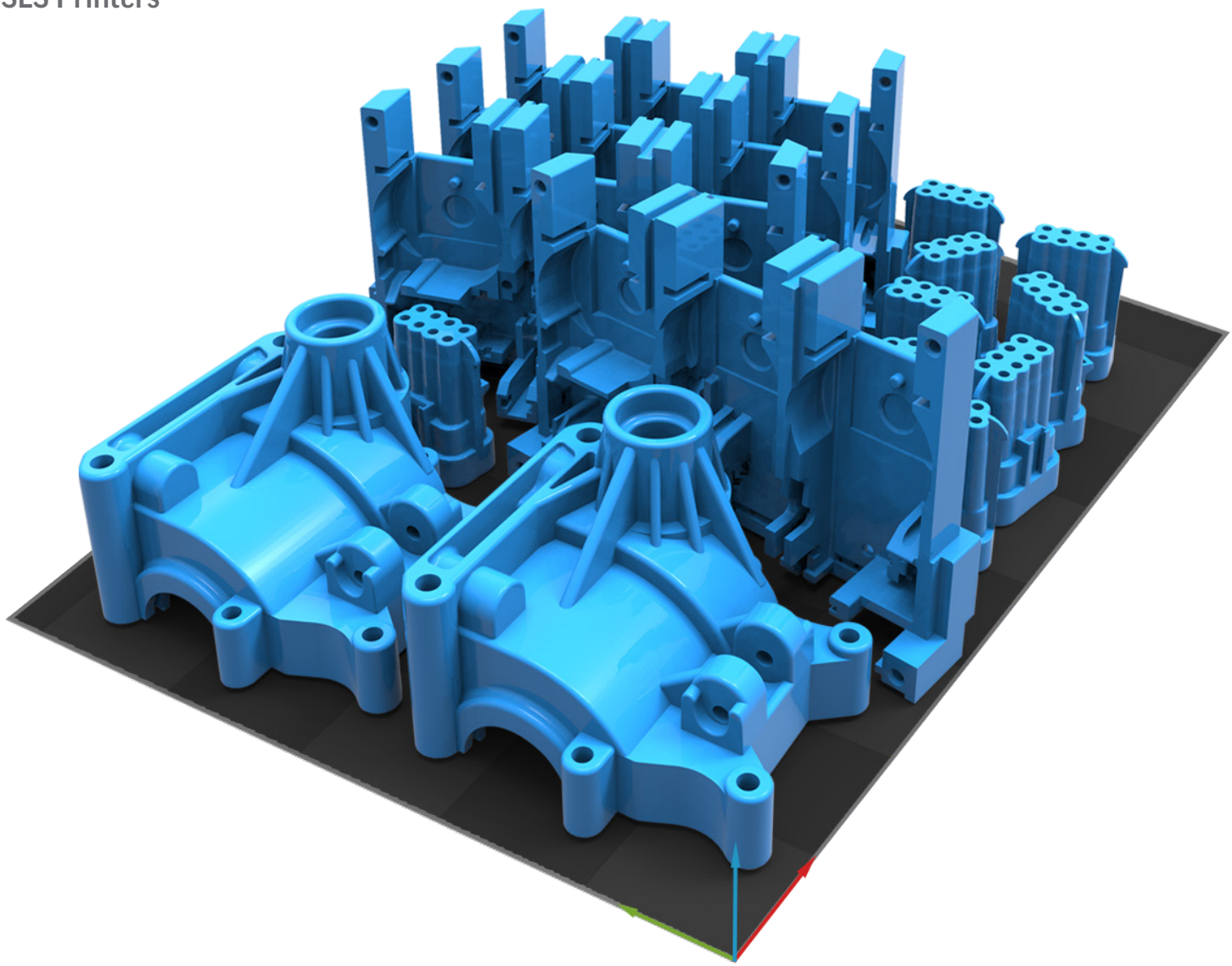
3D SYSTEMS

3D Sprint™

Quick Start Guide

SLS Printers



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This guide takes you through the **3D Sprint** SLS workflow for setting up your first print with the new **ProX SLS 6100**, or using our virtual printers to create build files for the **ProX SLS 500** and **sPro** series printer.

Note: To get help at any time in the 3D sprint application, press **F1** or click the help icon. The help contents will open in your default browser.

1 CONNECTING TO THE PRINTER

INSTALL 3D SPRINT

To download **3D Sprint** and obtain a license, please visit the 3D Sprint Software Downloads page.

Before installing **3D Sprint**, you may have to update some settings on your computer and graphics card. Please read the 3D Sprint Installation Guide for procedures on this and for full installation instructions.

After installing **3D Sprint** on a Remote PC or Printer PC, launch the application.

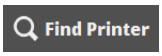
NOTE: Sinter.exe from latest V6.2.X release should already be running on the Printer PC.

ADD THE PRINTER

3D Sprint can connect with physical printers by connecting from a Remote PC via network or running on the Printer PC. Virtual printers are also available to set up and verify a print without having the actual printer connected.

Remote PC and Printers PC

1. To detect your printer, click the **Printer** 

button on the **Print** tab to open the **Printer Setup Dialog**.
2. If the Remote PC is on the same network as the printer and **Sinter** is running on the Printer PC. Click **Find Printers** 

   Or, if **3D Sprint** is running on the Printer PC.
3. Then ideally you should see the printer under Network/USB printer section.

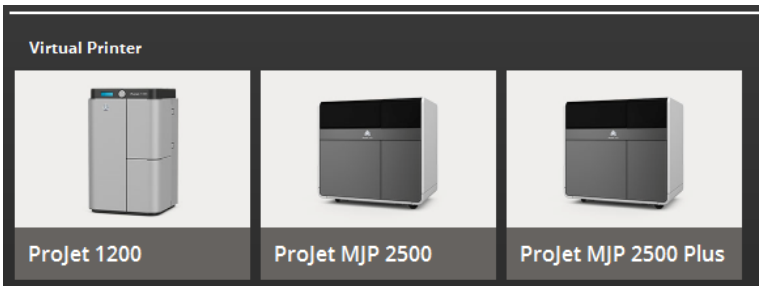
4. If the printer is not detected, you may have to find the printer by its IP Address.

5. Once your printer is found, complete the printer setup by selecting it and then choosing the appropriate **Platform** (sPro Series only), **Materials**, **Print Mode** and **Build Style**.
6. Click the **Set** button. 

Virtual Printers

To setup a virtual printer:

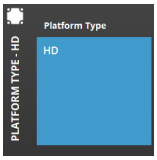
1. Select one of the virtual printers that is shown in the bottom of the printer dialog listed under Virtual Printer.



2. Follow the same printer setup steps as connecting to a physical printer.
3. Click the **Set** button. 

PRINTER SETUP

Several options need to be set in the **Printer Setup** before you begin printing.

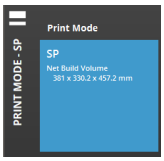


Platform (sPro Series only)

1. Select a Platform Type.
2. Click **Next**.

Materials

1. Select a Material from the options available. There are pre-set Print Modes and Build Styles for each material.
2. Click **Next.**



Print Mode

1. Select an available Print Mode available for the current Material selection.
2. Click **Next**.

Build Style

1. Select an available Build Style for the current Material selection.
2. Click **Set**.

Note: See the current printer, material and volume in the information box at the bottom right of the platform screen.

OPEN OR IMPORT PARTS

From the **Print** tab, click the **File** option and select **Import** to load parts meshes from .STL or .BPZ file types onto the platform.

Alternatively, you can load a saved **3D Sprint** Project file by selecting **Open**. The native file contains the entire project, print setup and file preparations including part data.

OPTIMIZING YOUR BUILD

There are several commands described below available in **3D Sprint** to improve your SLS print builds.

For more information on the usage of these commands, please consult the **3D Sprint** Help by clicking the help icon in these commands or by pressing F1 key at any time in **3D Sprint** application.

Scale Offset

3D Sprint provides tools for scaling and offsetting parts. You will typically want to increase the size of a part slightly to compensate for shrinkage during the SLS process; this is called scaling the part.

You can apply a different scale factor in each direction (X, Y, and Z). To scale parts, select the **Scale & Offset** option from the **Print** tab. You can determine scale values by measuring parts and hand calculating their variance from the desired dimensions, or use **3D Sprint's** Scale & Offset Wizard to perform the calculations.

Cage

SLS Manufacturing is excellent for manufacturing lots of small, complex plastic parts, such as electrical connectors and clips. The **Cage** command on the **Print** tab allows the placing of a structure around small parts to prevent them getting lost during break out and post processing.

Auto place

Use the **Auto Place** command on the **Print** tab to place part files and structures like cages automatically on the printing platform in and optimize print time and area for the current printer.

Build Profile

By default, the Build Profile assigned is defined during the configuration of printer and materials when setting up printer in the Printer command.

Build Profile Editor allows you to create a new profile or modify an existing one to assign specific build parameters to a job. It will define the behavior of the build at various Z levels during the print.

Build Profiles are assigned to an entire print build.

Part Profile

Like the Build Profile, the Part Profile is assigned during the configuration of printer and materials when setting up.

However, the **Part Profile Editor** allows you to create a new profile or modify an existing one to assign specific part build parameters to parts to define the behavior of the build at various Z levels during the print.

Part Profiles can be assigned to selected parts of a print build.

3 SENDING IT TO THE PRINTER

Once the parts are ready, they can be saved to a build file or sent directly to the printer to be added to the printing queue.

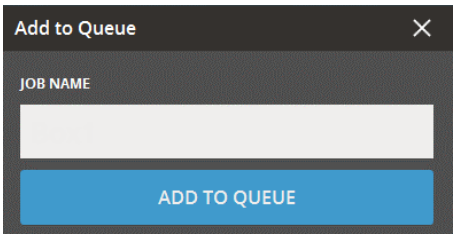
ADD TO QUEUE

If **3D Sprint** is running on a Remote PC connected to the printer or a Printer PC, the job can be sent directly to the printer queue by selecting the **Add to Queue** button from the navigational options at the bottom right of the **Print** tab.

Add Job Name

After clicking the **Add to Queue** button, you will be prompted to set a job name.

Enter a name and click **Add to Queue.**

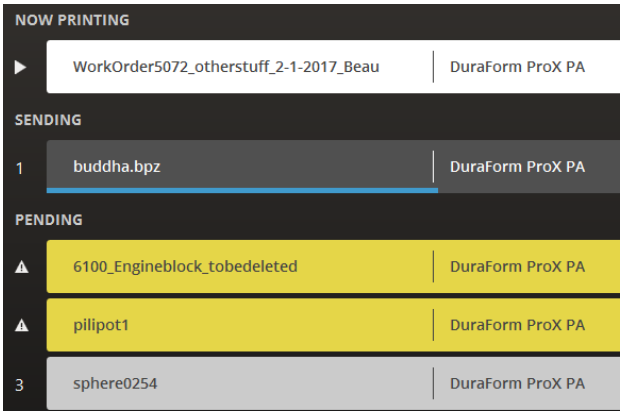


Note: Job names can only contain English alphanumeric characters, underscores (_) and dashes (-). Spaces and other characters are not allowed.

Sending Pending list

When you click **Add to Queue** button, it will direct you to **Queue** Tab and you will see the submitted job is in the **Sending** list.

There may be a delay for the job to shown in this list while the information is being refreshed from the printer.



Note: Job Properties will not be detected as the job is being sent to the printer. The Job Properties will only show correctly, after the job is added to the **Pending** list.

PRINT TO FILE

There is also the option to save a print project as a build file (.BPZ)

To do this:

1. Select **Print to File** button from the navigational options at the bottom right of the **Print** tab.

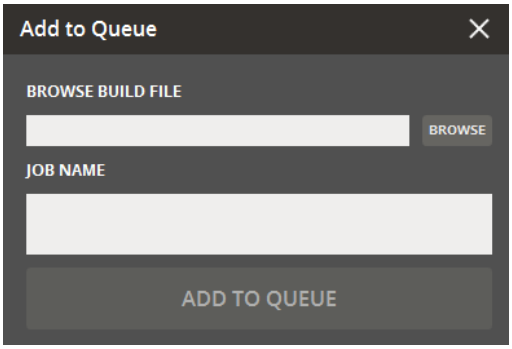
2. Select a location to save the file and enter a filename
3. Click **Save**.

ADD JOB FROM FILE

3D Sprint is running on the Printer PC can add a job (BPZ) file directly to the queue.

1. On the **Queue** tab Select **Add Job From File** 

2. Browse to select the build file (.BPZ)
3. Enter a Job Name.

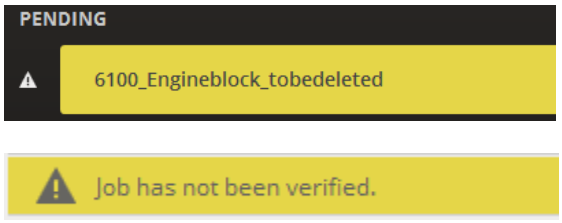


Note: Job names can only contain English alphanumeric characters, underscores (_) and dashes (-). Spaces and other characters are not allowed.

4. Click **Add to Queue**.

VERIFY JOB

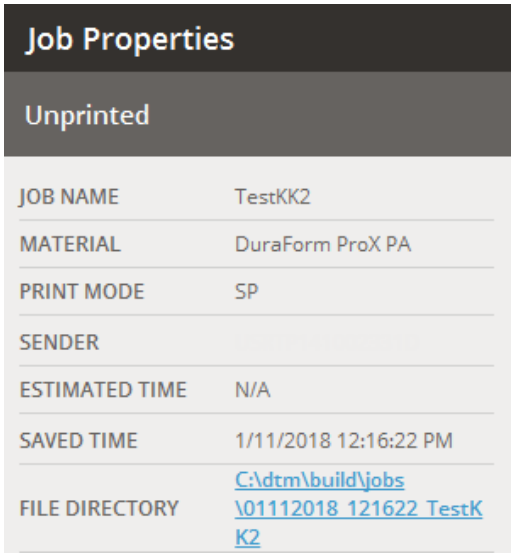
If sending the job to printer is successful, you should see a job added to printer **pending** list in the **Queue** tab.



If the job in not verified, please use the **Verify and Save** 

command on the **Queue** tab from the Printer PC to prepare the job for printing.

START BUILD WITH SINTER APP



Now user can use **Sinter App** on the Printer PC to select generated BPF file to start the build.

This BPF for this job will be located in a folder whose name ends with the job name under the C:\dtm\build\jobs folder.

You can find this location under **File Directory** in the **Job Properties.**

For e.g. if the job is named 'Box1', the folder name for this job will begin with the date on which this job was sent to the printer and end with the name of the job.

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