

envisionTEC

Technical Guide

Envision One cDLM: Material Change

The Envision One cDLM can print models using a variety of materials. This technical guide goes through the process of removing the current material from the printer and adding a new material.

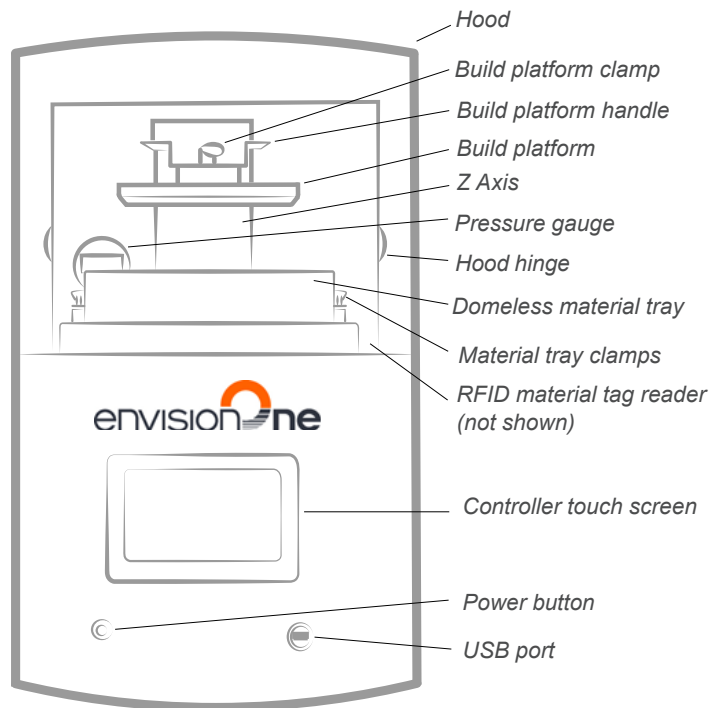
Primary Supplies

- Absorbant paper towels
- Material storage container (opaque and resealable)
- Rubber spatula (Starter Kit)
- Nitrile gloves
- Cone-shaped paint filter
- Plastic funnel
- Buildstyle for new material (contact Customer Support)

Procedure

When switching materials on the Envision One cDLM printer, it is important to keep the build platform and material tray clean in order to avoid contamination. Ensure all supplies are ready before beginning, and wear gloves for the duration of this procedure.

Fig. 1 ENVISION ONE CDLM FRONT VIEW



1 Removing the Build Platform

Place one hand on the build platform handle and then lift the build platform clamp with your dominant hand, *Fig. 1*. This will release the build platform. To remove the build platform, hold the build platform handle and slide the build platform towards you. Use your second hand to lightly cradle the bottom of the build platform with the paper towel to catch potential material drips. **Close the hood to protect the material and material tray from exposure to light.**

2 Clean the Build Platform

Inspect the build platform. The build platform must be cleaned before beginning a print with a new material. Use a dry paper towel to wipe each surface, focusing on the corners. Double check to make sure

there are no shiny areas left anywhere on the build platform. Set it aside on a clean paper towel-lined work surface. **Skipping this step could cause material contamination.**

3 Remove the Material Tray

Always wear gloves when handling the material tray. Avoid touching the glass on the bottom of the tray. Finger prints and smudges on the glass will affect print quality.

Release the right and left material tray clamps. Slide the material tray towards you and remove from the printer. Set aside on a clean, paper towel-lined work surface. **Never remove the material tray before removing the build platform.**

4 Empty the Material Tray

Gather the material storage container, plastic funnel, and cone-shaped paint strainer. To avoid contamination, never pour used material back into the original bottle. Remove the lid of the storage container and place the funnel and paint filter over the opening. Take the material tray and hold it above the paint filter. Avoid touching the vent holes and the bottom glass. Tip the tray at the front corner, allowing the material to flow into the filter at a controlled speed.

5 Clean the Material Tray

Wipe away any drips using a dry paper towel and set the material tray down on a clean paper towel-lined surface. Wipe the inner surfaces with a clean paper towel until there is no more material visible. To clean the corners, fold the paper towel and press lightly into the corner. **Never use IPA, water, or any cleaning agent to clean the inside of the material tray.**

6 Reinsert the Empty Material Tray

Slide the clean material tray into the printer, vent holes first, until it is fully seated. Listen for click. Tighten the left and right material tray clamps. Wait to add material until ready to begin a new print. Close the hood to protect the material tray from light. Dispose of the used paint filter and wipe the funnel clean using a paper towel. The funnel can be stored in a safe place until it is needed again.

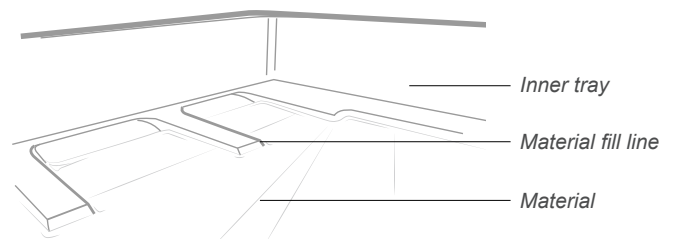
7 Switch Material Tags

Remove the RFID material tag from the printer. Store the old material tag with the previously used material. Insert the material tag for the new material. The light on the tag reader will indicate the tag has been read by the printer.

8 Add New Material

Each type of material EnvisionTEC offers has specific instructions for use. Be sure to properly prepare your specific material before each use. Slowly pour material into the domeless material tray until the material reaches the material fill line, *Fig. 2*. Do not fill the material tray past this point. Adding material past this point may cause the material to overflow when the print starts. If needed, let the material sit in the tray for 20 minutes to allow any air bubbles to disperse.

Fig. 2 ENVISION ONE MATERIAL TRAY



9 Use the Corresponding Buildstyle for your Next Print

Check to make sure that the buildstyle in the Envision One RP software matches the new material on the printer. *See the Buildstyle Installation Technical Guide for more information on connecting a new buildstyle.*