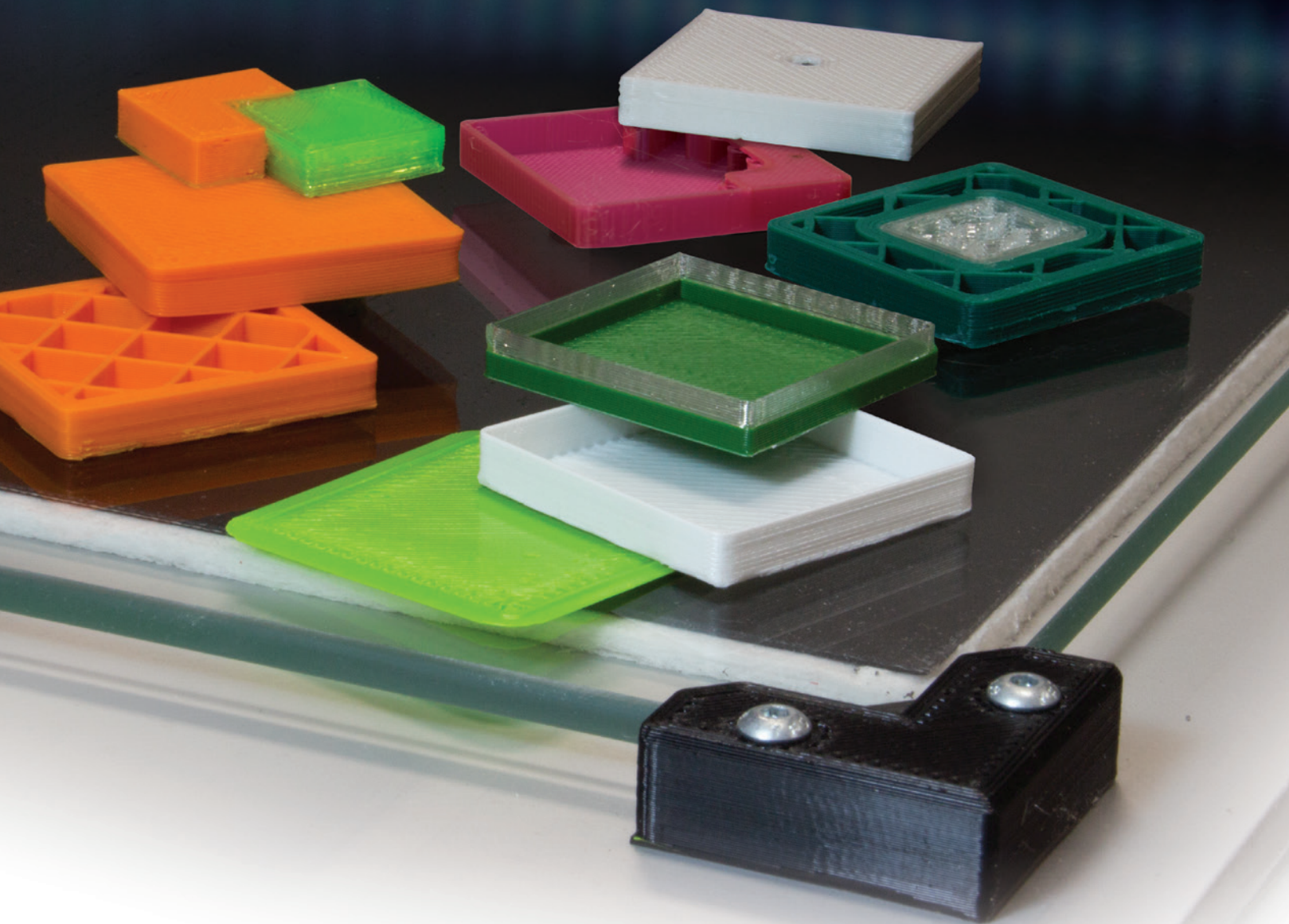


The Building Blocks of Successful 3D Printing



THINK
PRINT
SAVE | **BIG**
The most trusted open market 3D printer

3DP
3D PLATFORM



100 Series
WORKTABLE



200 Series
WORKBENCHCLASSIC



300 Series
WORKBENCHPRO



400 Series
WORKBENCHXTREME

WORKSERIES

Additive Manufacturing System

3D PLATFORM FILAMENT EXTRUDERS ARE THE FASTEST ON THE MARKET. WITH UP TO 16X SPEED OVER THAT OF COMPETITORS, YOU CAN PUSH ADDITIVE MANUFACTURING TO NEW HEIGHTS.

Use a small diameter nozzle for fine layer resolutions. Use a large extruder and a large diameter nozzle for fast printing and ultra-strong parts.



3DPLATFORM.COM

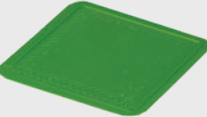
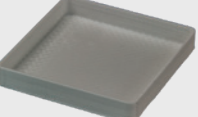
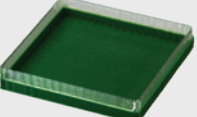
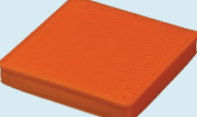
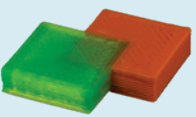
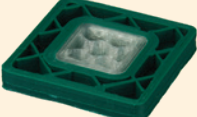
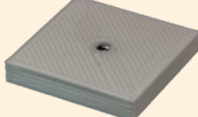
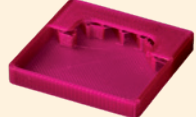
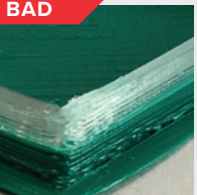
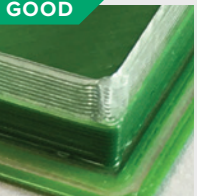
3DP
3D PLATFORM

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Use these **Building Blocks of Success** to maximize print quality, efficiency, and to learn advanced printing techniques. Always take 10 minutes to calibrate and test your process before you run a large print or between material changes.

Calibration

Building Block	Initial Set Up			Building Next Layer			Skill Building		
	1 Chip	2 Thin-Wall Box	3 Two-Color Thin-Wall Box	4 Single-Color Infill	5 Top Layers Test	6 Two-Color Alignment Test	7 Dual-Color Infill	8 Metal Insert	9 Breakaway Support
Purpose	 Quickly determine if the flow rate is set properly.	 Ensure layer-to-layer adhesion strength.	 Ensure adhesion strength and align two print heads.	 Test the strength of various infill patterns.	 Adjust the infill percentage to test how material bridges open spaces.	 A different method to align two heads with different materials.	 Use two different infill patterns on the same print.	 Learn how to place a pause code in a print to insert metal components.	 Optimize separation layers for printing breakaway support.
Trouble Shooting	 Z-height too close to glass. Flattens bead and tears filament.	 Filament under-extruding material. Layers appear thin or missing material.	 Extruders Y position not aligned. 2 colors do not print in proper locations.	 Material being over extruded / too much too fast. Results in thick uneven layers and wall thickness.	 Filament not feeding properly. Gaps in rows and between beads will appear.	 Plastic shows variable flow characteristics. One section looks good, another has voids in the print.	 X and Y extruder head position has not been calibrated. Colors will run together and overlap.	 Improper pause code placement. Metal insert too high causing potential damage to nozzle.	 Support density too high a percentage. Support material will bond too strongly, damaging finished part.
	 Z-height too high off glass. Unbonded beads separate, and poor bed adhesion.	 Extruder carriage moving too quickly. Beads not bonded or missing material.	 Over extrusion due to slow feed rates. Beads width thicker than settings and creates globs.	 Improper settings for extruder movement to next layer. Leaves globs and zits of material.	 Inconsistent material extrusion. Layers and rows of extruded material can be skipped.	 X and Y offsets are not calibrated. Colors will not be aligned.	 No fan / no cooling settings. Material remains soft as next hot layer is placed on it.	 Extrusion speeds too fast. Result in gaps or missing material not securing insert in place properly.	 Insufficient top layers above separation layer. Holes, gaps, and voids appear in the top finish surface.
	 Proper Z-height set. Adjust Z "baby stepping". Shows proper bonding of beads together, and good bed adhesion.	 Filament feed and extruder speed matching. Adjust feed rate and extrusion multiplier. Strong bond between individual beads and layers.	 Y position is aligned, along with feed and speed matching. For alignment, adjust Y offsets. For material flow, adjust feed rate and extrusion multiplier. Color or material placement is consistent, with a strong bond between layers.	 Good material flow speeds and retract settings. Adjust retract settings to control material flow between layers. Adjust feed rate and extrusion multiplier to control material flow while extruding.	 Consistent flow of material from the extruder. Check extruder hob for no material build-up and proper filament feed. Check filament for twist or binding at the material spool.	 Squares will align and both materials print smoothly. Check filament quality - diameter, material properties, etc. Adjust the X and Y offsets to bring extruder heads into aligned position.	 Extruder heads calibrated and in alignment. Will create proper geometry. Adjust the X and Y offsets to bring extruder heads into alignment. Turn cooling fan settings to continuous "ON" position.	 Pause codes properly placed and extrusion settings correct. Insert M600 pause code at the proper Z-height in the G-code file. Set material feed rate, extrusion multiplier, and fan settings to ensure insert encapsulation.	 Top layer fully complete and support material is easily removable. Set percentage of support infill to minimum amount of material needed to hold top layers without sagging. Utilize separation layer between support and top finish layers.

Download our Calibration and Technique files from our website at:
<https://3dplatform.com/print-process-training/>

Your Partner In Success!



We ensure successful startup and operation of your machine and team.

Startup

- ▶ Machine Functionality Verified on Site
- ▶ Fully Calibrated
- ▶ Basic Machine and Software Functionality Covered

Training

- ▶ Advanced Printer Functionality
- ▶ Advanced Slicing Functions
- ▶ Basic Machine and Software Functionality Covered

Service Benefits

- ▶ Performed by 3DP certified technician
- ▶ Remote 3DP support

Open Market Benefits

Leveraging the power of thousands of organizations and individuals from the open market creates a long-term success path for you the user. 3DP partners with leading open market software and materials to drive you successful 3D printing.