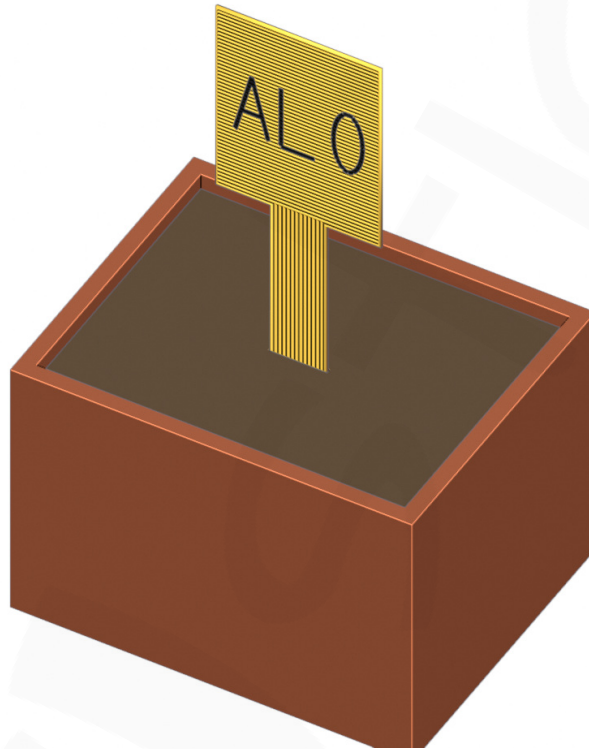


MAKE • DISCOVER • COLLECT

A label for your plant

Age 10+ — a project decision; the device instructions take precedence. Home or workshop. •
18–30 min with the pen · 30–48 min total



Make one flat 120 × 40 mm label, add your own wording with a marker and check that it stands upright in the intended plant pot. The wide stem has a blunt end, and the rectangular panel is filled with PLA bands.



Your outcome

Make a readable label with your own wording and check that it stands upright in your plant pot.

Construction illustration. The instructions show the successive stages. Full-size (1:1) templates are supplied on a separate sheet.

What you need

Additional items are needed. Prepare the complete list below before starting.

Basic equipment

☐	3D pen compatible with 1.75 mm PLA and power supply	1 set
☐	Transparent flexible mat approved for use with the pen	1 pc.
☐	W01 printout at 100% scale	1 sheet
☐	Ruler with millimetre markings	1 pc.

Filament — amounts include extra

☐	PLA 1.75 mm — light yellow	2.2 m · ≈ 6.6 g
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Project extras

☐	Marker suitable for writing on PLA	1 pc.
☐	Intended plant pot with soil	1 pc.

Basic equipment

☐	Stable, protected work surface	1 workstation
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Total filament: 2.2 m · approximately 6.6 g

The quantities include extra filament. Grams indicate estimated net filament mass, excluding packaging.

Before you start

Simplified view

The illustrations omit the pattern beneath the mat. Use the W01 printout for the work. The opaque surface shown is not used to read the pattern; the actual mat must allow it to remain visible.

Device and PLA

Age 10+ applies to the project. Device requirements, supervision, ventilation and the manufacturer's recommendations take precedence. Do not touch the nozzle or fresh PLA.

- 1 Choose short wording that fits the panel, for example ALO. Have the intended plant pot ready and leave space for the label away from the plant stem.
- 2 Print W01 at 100%, with page fitting disabled. Measure the control line: it must be 20 mm long. Correct the print settings if it is not.
- 3 Place W01 under a transparent flexible mat suitable for use with the pen. The pattern must genuinely remain visible and stationary as you work. Do not draw hot PLA directly on the paper.
- 4 Work on a stable, protected surface. Prepare the pen and PLA according to the manual, including its ventilation requirements. Do not touch the nozzle or fresh PLA; park the pen safely as directed by the manufacturer.
- 5 Before making the outline, place a short test strip on the mat over the W01 control band (20 × 1.2 mm), outside the label. Once fully cooled, compare its width from above with the 1.2 mm band. If the strip is spread too wide adjust the movement speed and feed according to the device instructions, then repeat the test strip.

At the label, lay the beads side by side without adding another layer.

Estimate for one label; no physical test has been carried out. Cooling and drying times depend on the actual material.



How to read the instructions

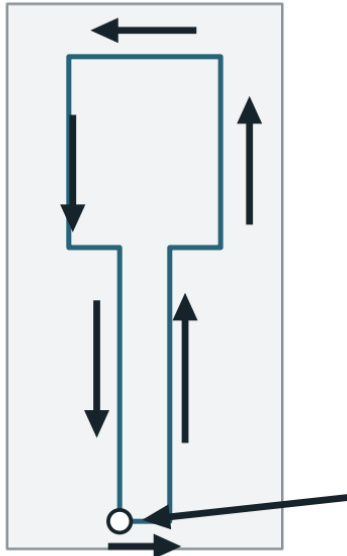
The large image shows the completed stage. Small views show the action and current parts. ×N means repeat the whole action N times, cooling and checking each time. Illustrations are not at 1:1 scale.

STAGE 01 / 04 • Session 1

Join the whole outline

K01 • TRACE ONE CONTINUOUS OUTLINE

Nozzle path schematic • top view • not to scale



1. Start at the blunt end.
The W01 pattern lies under the mat.
Trace its outline with PLA.
2. Follow the stem and the entire panel.
Keep the panel joined to the stem.
3. Return to the starting point.
Join the last section to the first.
The outline must be closed and flat.

Circle = starting and closing point. Arrows = tracing direction.

Schematic showing how to guide the nozzle around the W01 outline and join the end to the start. The actual S01 and S02 phases are shown in the illustrations for this instruction card.

PARTS FOR THIS STAGE

1 × Label with a wide, blunt-ended stem · PLA | template follow the written method

Following W01, make a closed outline and adjacent beads: along the shaft and across the field. Lay them side by side in a single layer. Nominal single-layer thickness perpendicular to the mat: 1.2 mm. The model's circular bead with a 0.6 mm radius is also 1.2 mm wide. Cross-section and cooled test-strip check: K02.

Finished cross-section [mm]: 1.2. Support: W01 visible through a suitable mat on a flat work surface. Strand direction: Along the stem; across the panel; one plane. Cooling: Allow to cool completely. Tip access: Nozzle accessed from above without dipping into a previously laid band.

Once the workspace is ready, follow the W01 outline with PLA, around the rectangular panel and the wide, blunt-ended stem. Close the outline by joining the last section to the start. Keep the panel and stem connected at their junction; do not make two separate pieces.



Check

The outline is closed and flat, and the blunt end has no sharp protruding section.

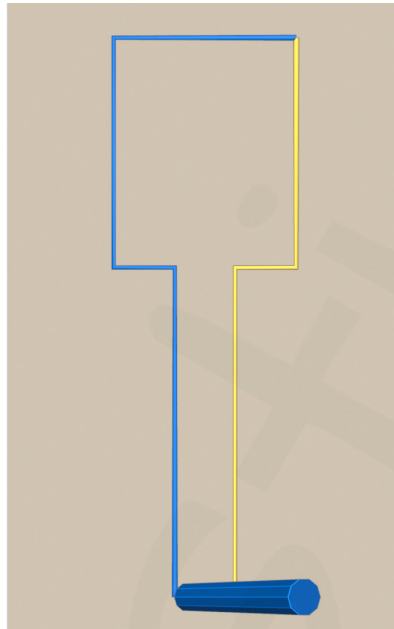
If it does not work

Bridge a gap with PLA while the piece remains on the mat. If the tip or junction is distorted, let that attempt cool and make a correct outline using W01. Do not straighten warm PLA with your fingers.

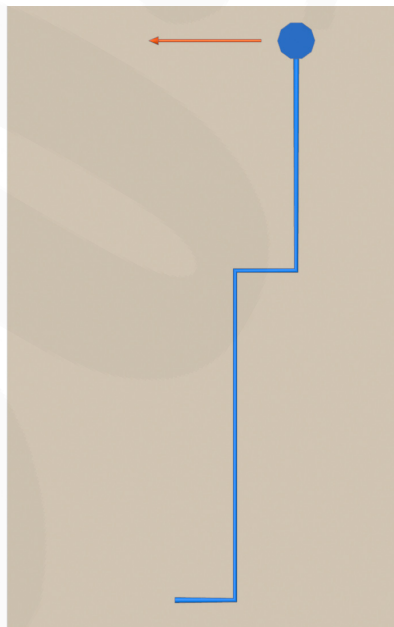
The illustrations omit the pattern beneath the mat. Use the W01 printout for the work.

Join the whole outline — construction details

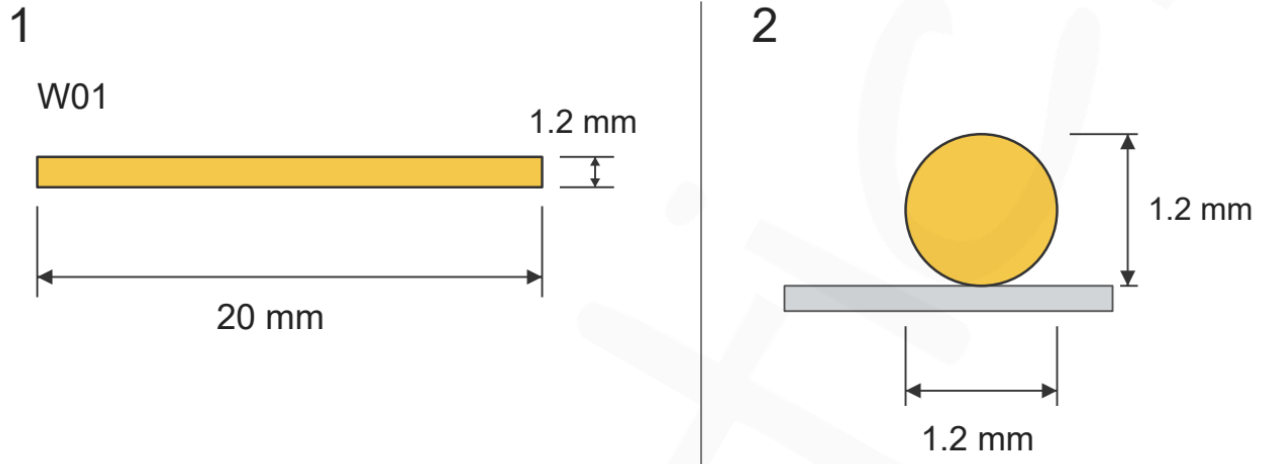
Close the outline



Build the open outline



Fill the stem and writing panel



Single-layer check: bead width against W01 and the nominal 1.2 mm circular end-on cross-section. The vertical direction shows thickness above the mat. Enlarged for clarity, with no design changes.

Fill the stem with parallel bands running along its length, joining them to the outline and the panel junction. Then fill the rectangular panel with parallel bands from one side to the other, placing each beside the previous one. Join neighbouring bands and connect their ends to the outline to make a continuous writing surface.

Keep everything in one plane, without adding stacked layers. Park the pen as directed by its manual. Leave the label flat on the mat until the PLA is completely cool.

✓ Check

There are no loose beads or open gaps that hinder writing. The field joins the wide shaft, and the whole piece still lies flat. Compare bead widths with the cooled test strip checked against W01. The beads lie side by side on the mat; none forms another layer.

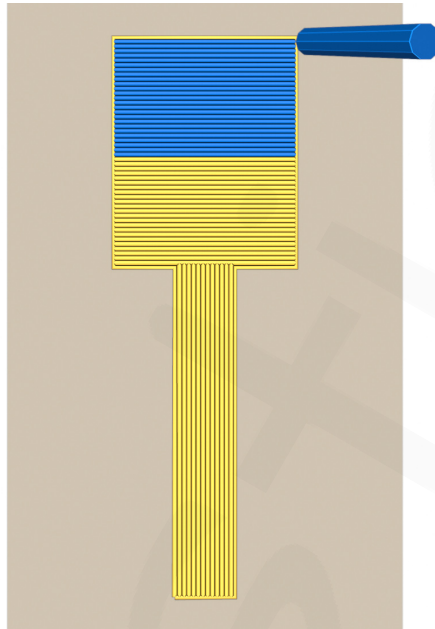
If it does not work

Before release, fill any gap in the same plane and join a loose end to adjacent PLA. If the stem or junction has cracked or narrowed, let the attempt cool and remake the piece; do not cover the problem with the wording.

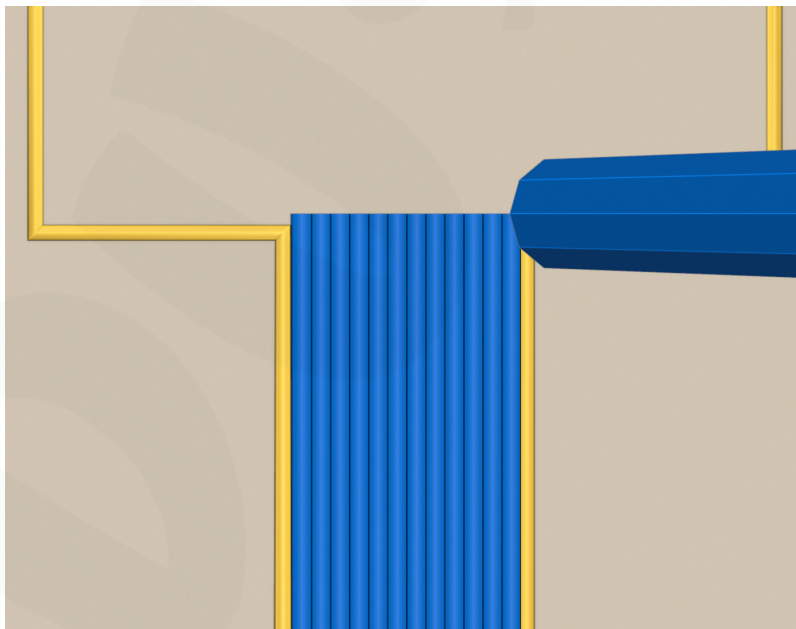
Diagram: 1 - bead width from above, compared with the W01 control band; 2 - end-on cross-section of a single bead above the mat. The vertical 1.2 mm is the thickness of one layer; the horizontal 1.2 mm is the bead width. The circle shows the nominal cross-section of the design geometry. Check the test strip only after it has cooled. The diagram is enlarged; use the W01 print at 100% scale to check the width.

Fill the stem and writing panel — construction details

Complete the writing panel

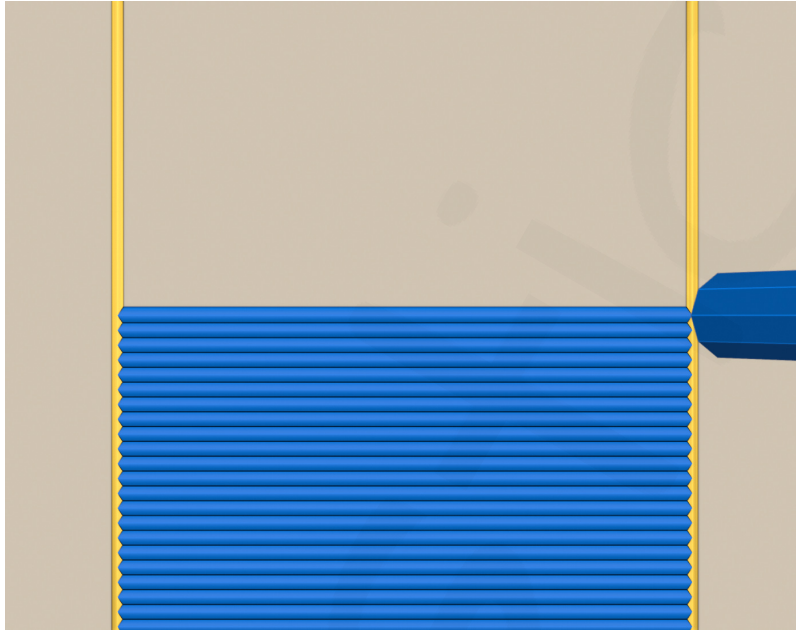


Join the stem bands



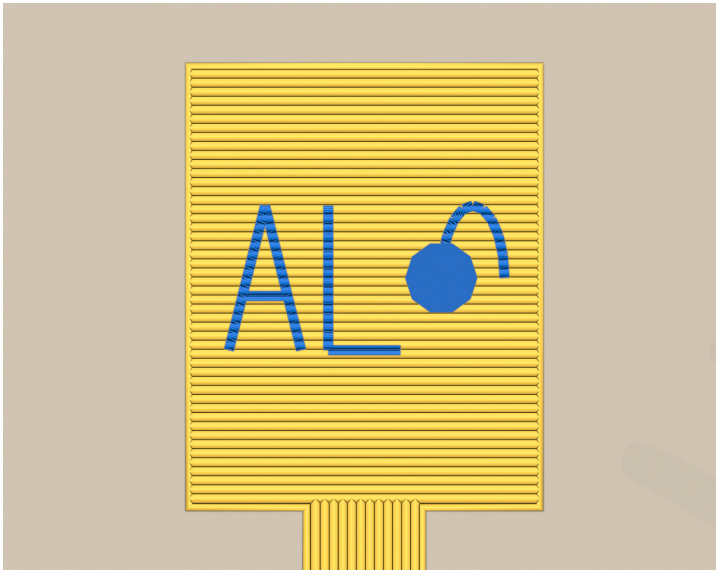
Fill the stem and writing panel — construction details

Add neighbouring bands



STAGE 03 / 04 • Session 1

Add your own wording



Write on the supported panel

NOW Marker: tip on the label panel · Ink mark: example wording ALO

Blue / dark emphasis: the part used in this action. Arrows: visual guides. Illustration not to scale.

Lay the cooled label flat on the work surface. Use the marker to add your chosen short wording in large, clear letters. You may add a small personal motif in a free area while keeping the name readable. Let the ink dry as instructed for the marker.

✓ Check

The wording fits the panel and can be read without guessing; the ink is dry before moving the label.

If it does not work

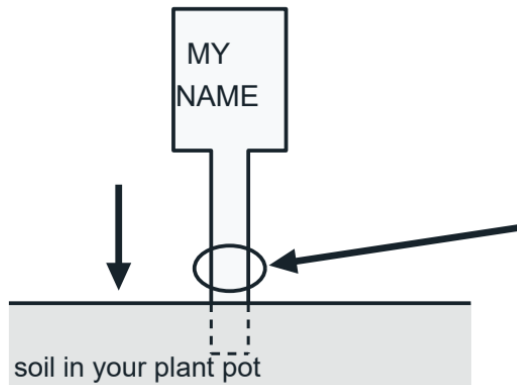
If the name is too long, choose a clear abbreviation before writing. Do not obscure letters with repeated ink strokes. If the finished wording remains unreadable, make a new label with shorter wording.

STAGE 04 / 04 • Session 1

Place in the plant pot and check

K05 • GRIP LOW AND INSERT GENTLY

Action schematic • front view • not to scale



1. Keep the writing panel entirely above the soil.

2. Hold the stem here: close to the soil surface.

Insert gently downwards.

3. Let go. Check it is upright and read your wording.

If you feel resistance, remove it. Do not press on top of the panel.

Circle = grip point. Vertical arrow = insertion direction.

Schematic showing a low grip on the rigid W01 and gentle insertion. The actual S09 and S10 phases are shown in the illustrations for this instruction card.

Choose a spot in the intended plant pot's soil away from the plant stem and visible roots. Hold the label stem close to the soil surface and gently insert its blunt end. Do not press on the top of the panel. Keep the whole writing panel above the soil.

Let go, check that it stands upright, and read the wording from your usual viewing position.



Check

After you let go, the label stays upright without support and the wording is readable in the intended plant pot.

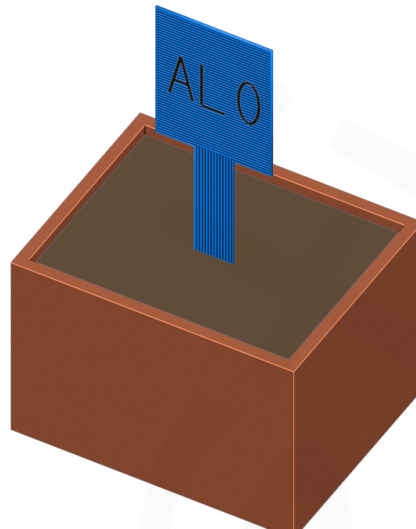
If it does not work

If you feel resistance, remove the label instead of pushing harder. Choose a looser spot in the same plant pot or gently loosen the soil away from roots. If it leans, insert the stem a little deeper while keeping the panel above the soil, then check again. Do not sharpen or bend the PLA.

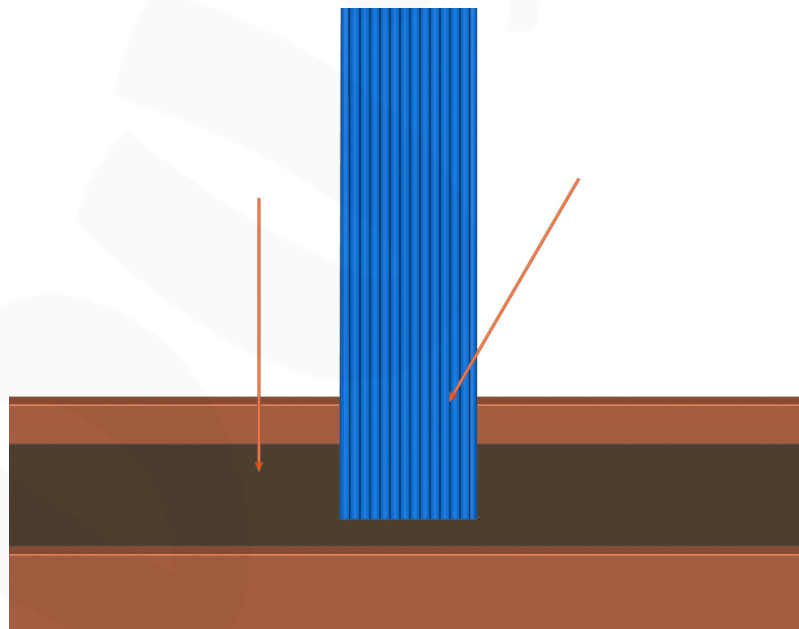
If it still will not stand or the wording cannot be read, the task has not yet passed its check.

Place in the plant pot and check — construction details

Let go and check for yourself



Insert with a low grip



Finished — check the outcome



Check

The rectangular panel is solid and joined to the wide, blunt-ended stem; the label remains flat.



Check

Your own wording is readable and the ink is dry.



Check

After you let go, the label remains upright in the intended soil without pressing on the writing panel.

Storage

Store the model in a cool place away from sunlight and heat. Repair it on a suitable 3D-pen work surface using the same material as the part.