

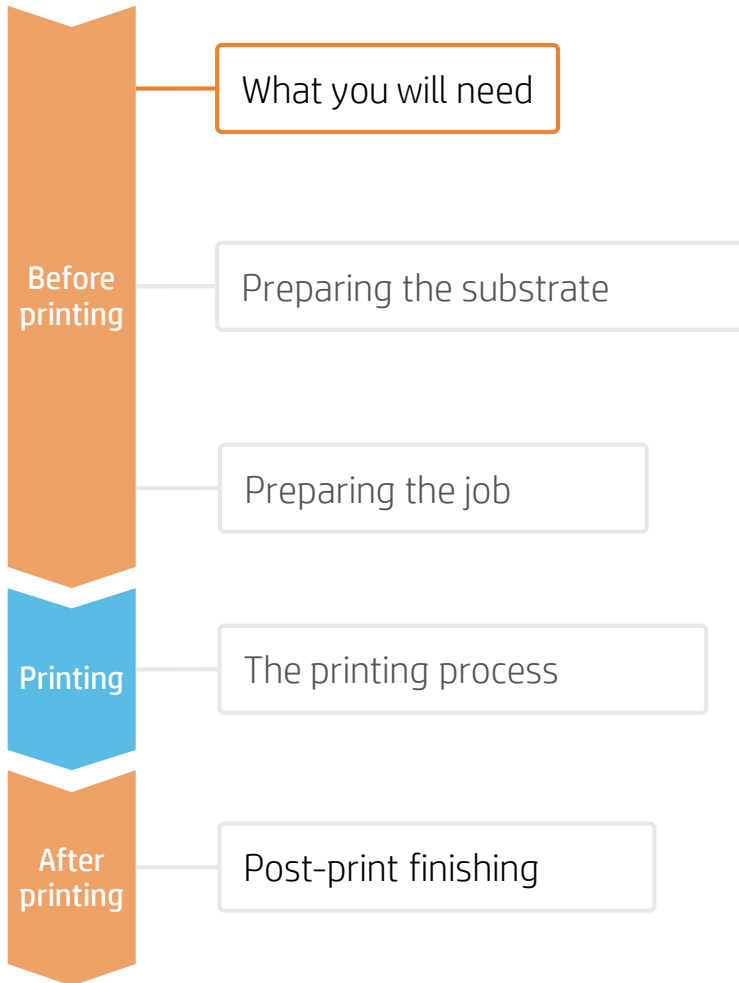
How to Print on Corrugated Plastic

An explanation of how to print on polypropylene corrugated plastic boards.



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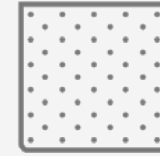
What you will need



PP corrugated board



Cutting device
(optional)



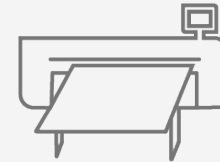
A clean cloth



Gloves



SW tools
(RIP, edition, etc.)



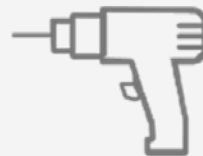
Printer



Isopropyl alcohol
(optional)



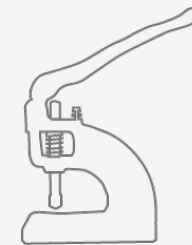
Surface tension test
inks/pens *(optional)*



Drill and metal drill bits
(optional)



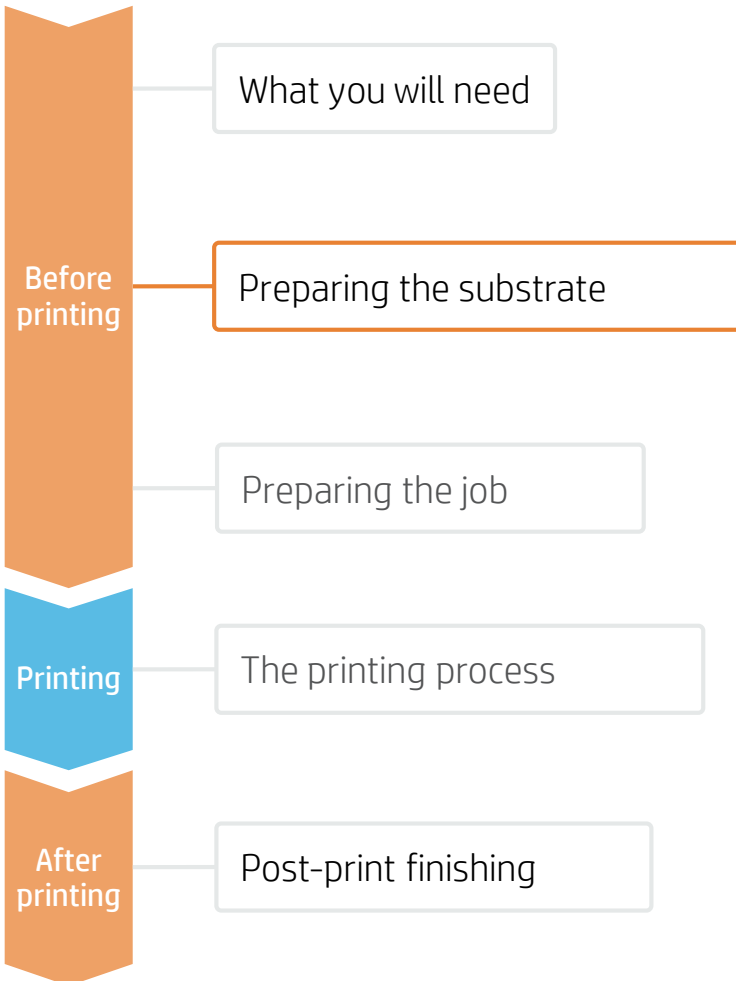
Finishing parts:
H-stakes, nylon clamps,
plastic eyelets, plastic
clips...



Plastic eyelet press
(optional)


How to Print on Corrugated Plastic

Preparing the substrate



1. Substrate check

A corona treatment is often applied to boards to increase ink adhesion. This treatment will diminish over time. Use fresh material to ensure the best results.

 **NOTE:** Latex inks wet materials with a surface energy of at least 30 dynes/cm. Surface energy can be measured with a special set of calibrated pens or inks.



2. Substrate handling

PP boards tend to hold static charge. Avoid sliding the substrate over the stack / carrying it across carpeted surfaces.



3. Table grounding

Ensure that substrate tables are attached and secured to the printer to provide a grounding surface for static-loaded materials.



4. Substrate cutting

Substrate is often not square. Trimming it to square may be necessary for some applications, such as edge-to-edge printing. Make sure all edges are cut clean and are free of burrs and/or excess material.

 **NOTE:** This process can be also done at the **end of the job**.




Thin boards can be also be cut using a ruler and a carpenter's square.



5. Sheet cleaning

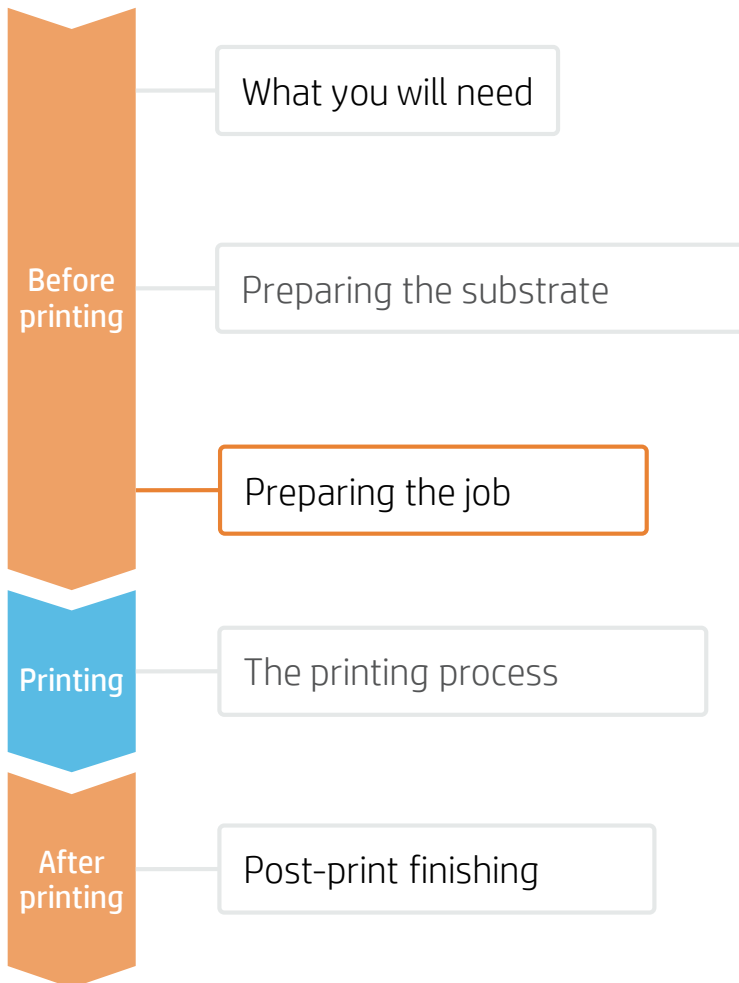
Ensure that the substrate is free of dust / particulate matter by wiping the surface with an anti-static cloth.

 **TIP:** If an anti-static cloth is not available, use a 90% isopropyl alcohol / 10% water solution on a lint-free cloth to wipe the print surface. Let it dry before printing.



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Preparing the job

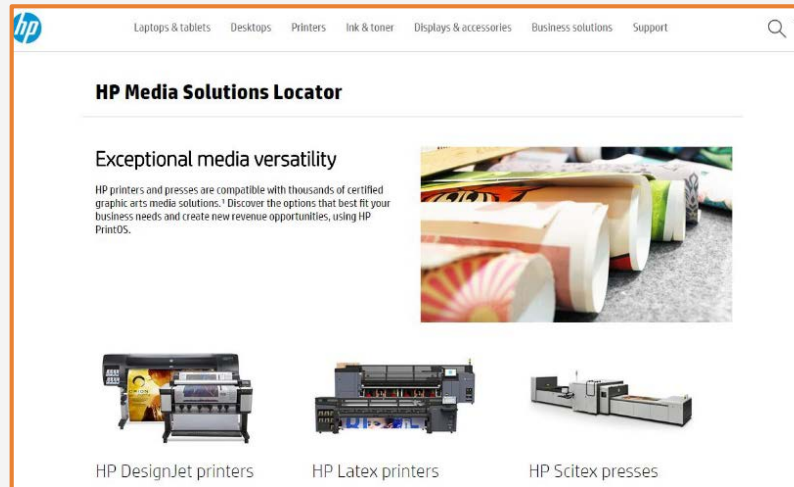


Corrugated plastic substrate presets

Many corrugated plastic board substrates (primarily propylene boards) have been tested at HP. In some cases, a substrate preset is already available to download. Visit <https://www.printos.com/ml/#/homeMediaLocator>.

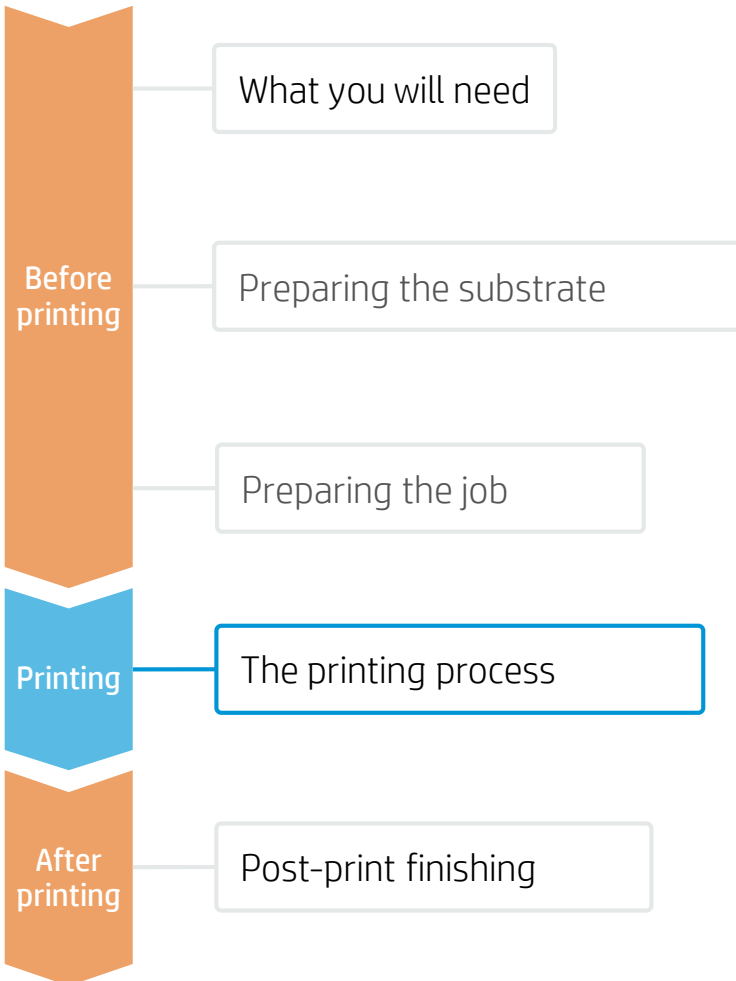
HP recommends downloading and installing it on your printer and RIP.

If there's no specific substrate preset for the substrate being used, a good starting point may be to use the "Generic Corrugated Plastic" substrate preset that is available.

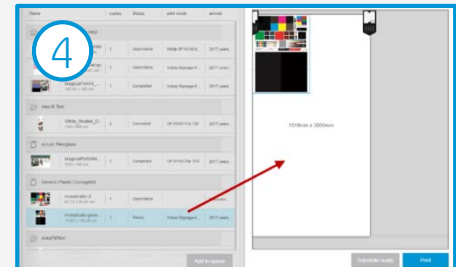
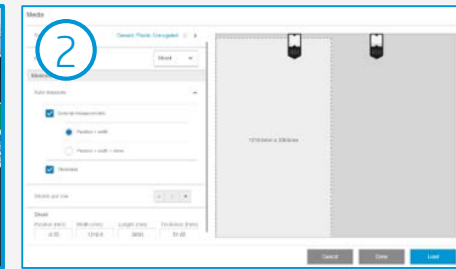
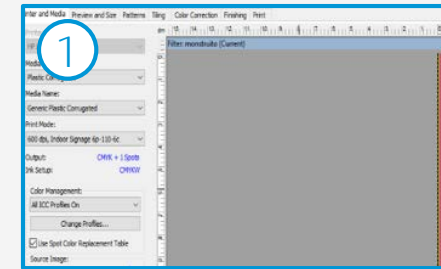


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The printing process



1. RIP the artwork, making sure to select the right substrate preset and print mode for corrugated plastic and send the output to the printer's queue.
2. Load the substrate into the printer as Plastic Corrugated > Generic Plastic Corrugated (or use the specific preset you downloaded).
3. Follow the loading process.
4. Select the RIPped substrate and drag it to the print job.



NOTE:

Regarding print mode selection:

-Select the **"Fast"** mode to print images that do not require very saturated colors or will be viewed from a distance of 3 m or more.

-Select the **"Outdoor signage"** or **"Indoor Signage"** modes for increased color saturation or for images that will be viewed closer.

TIP:

Faster print speeds can be obtained without noticeable banding by feeding the substrate with the flutes parallel to the motion of the carriage.

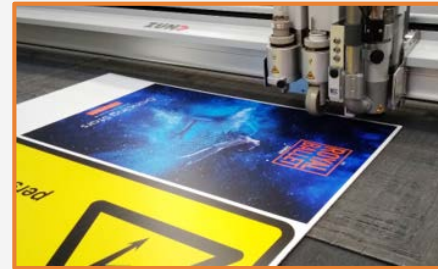
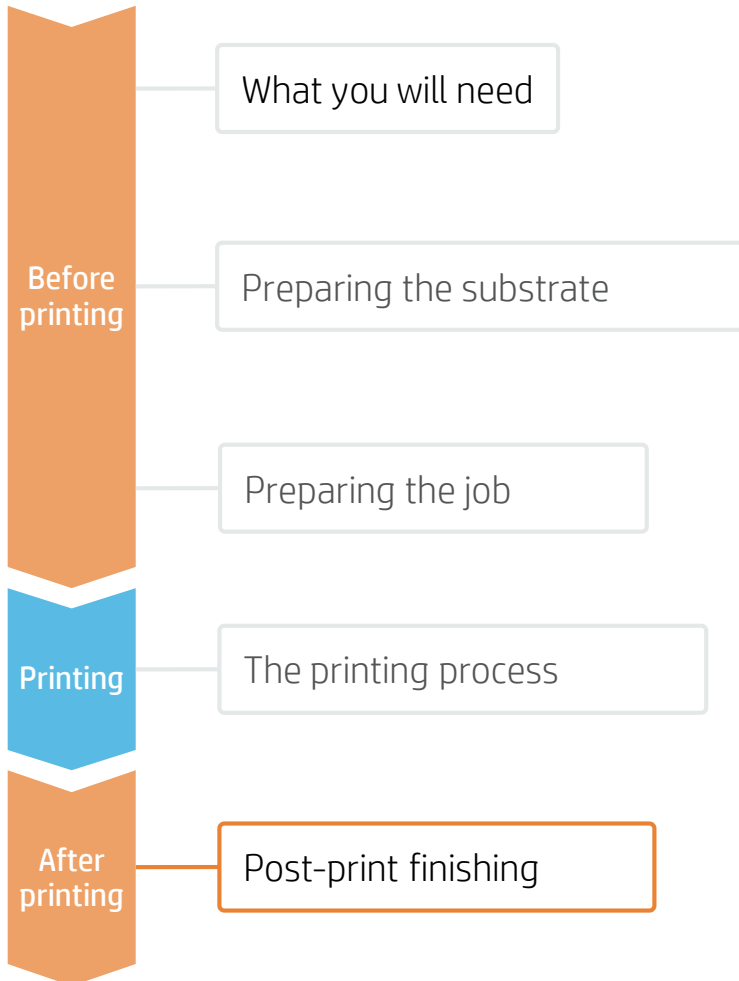


Press print

How to Print on Corrugated Plastic



Steps after printing



1. Cutting

If required, cut the sample to its final dimensions.

TIP: It's possible to process the job right after printing. There is very little risk of ink chipping during the cutting process.

NOTE: HP has successfully cut different corrugated pp panels on a Zünd XL3200 table cutter using the settings below. For sheets with a thickness up to 6.9 mm (0.27 in):

- **Head** – Universal Cutting Tool (UCT)
- **Knife** – Z11
- **Cutting Speed** – 800 mm/s (31in/s)

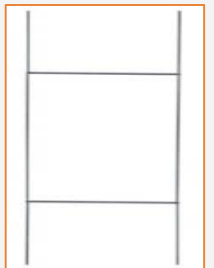
For sheets with a thickness up to 17 mm (0.67 in):

- **Head** – Electric Oscillation Tool (EOT)
- **Knife** – Z21
- **Cutting Speed** – 150 mm/s (6 in/s)



2. Mounting using H-stakes

Insert one H-end into the ground firmly enough to withstand wind force. Insert the other H-end into the sign's flutes.



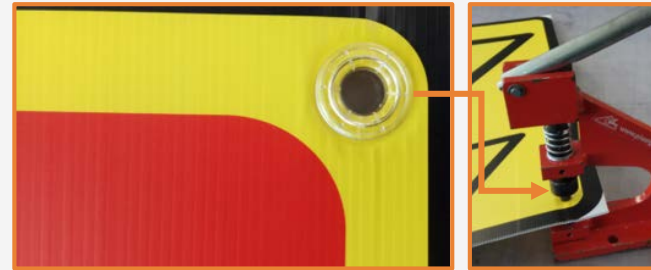
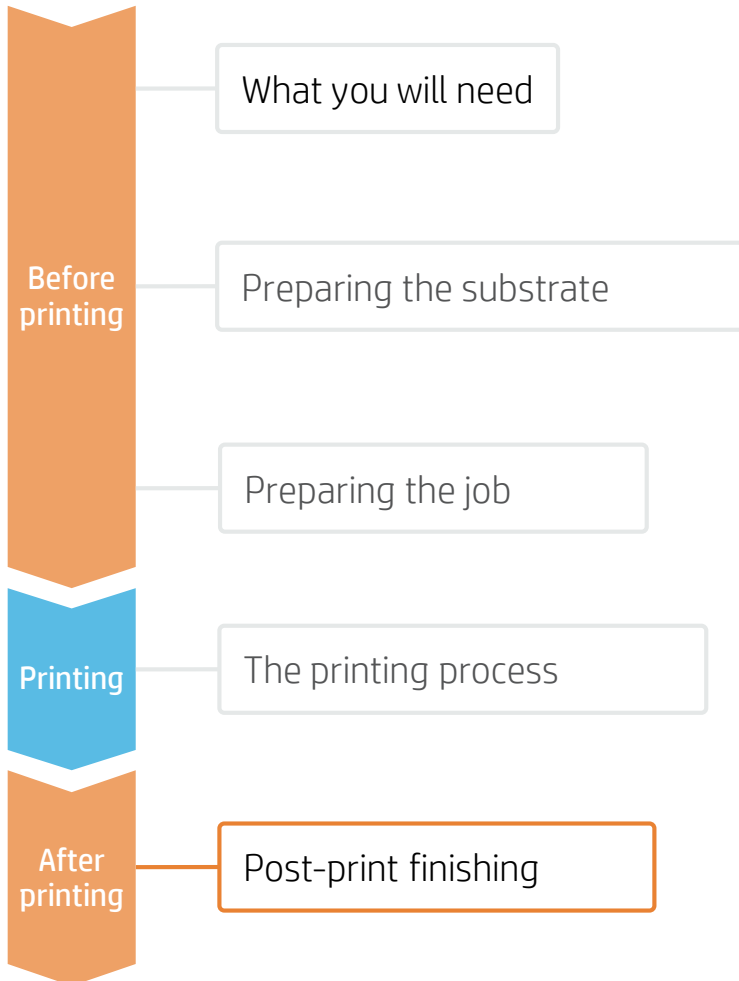
3. Mounting using nylon clamps

Create small holes, either with a cutting device or with a drill. Insert the clamp through the holes, attaching it to the support. Cut the clamp's excess material after it has been tightened.

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Steps after printing



4. Mounting using plastic eyelets

When mounting signs intended for medium or long term use, fastening points can be reinforced with plastic eyelets to prevent the substrate from tearing.



5. Bending

Due to the flexibility of HP Latex inks, printed materials can be bent up to 180 degrees without cracking the ink.

Depending on the substrate and shape you want to create, a table cutter can be helpful in producing bend paths, cuts or v-cuts on the unprinted backside of the sign before bending the substrate in order to create free-standing display structures.

On thin boards it may be possible to use a ruler to create bending marks without any need for cutting.



6. Joining corrugated plastic parts

Plastic clips can be used to join different pieces of a complex sign. Create holes in the parts to join them, then thread the clip through the holes to connect them.

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