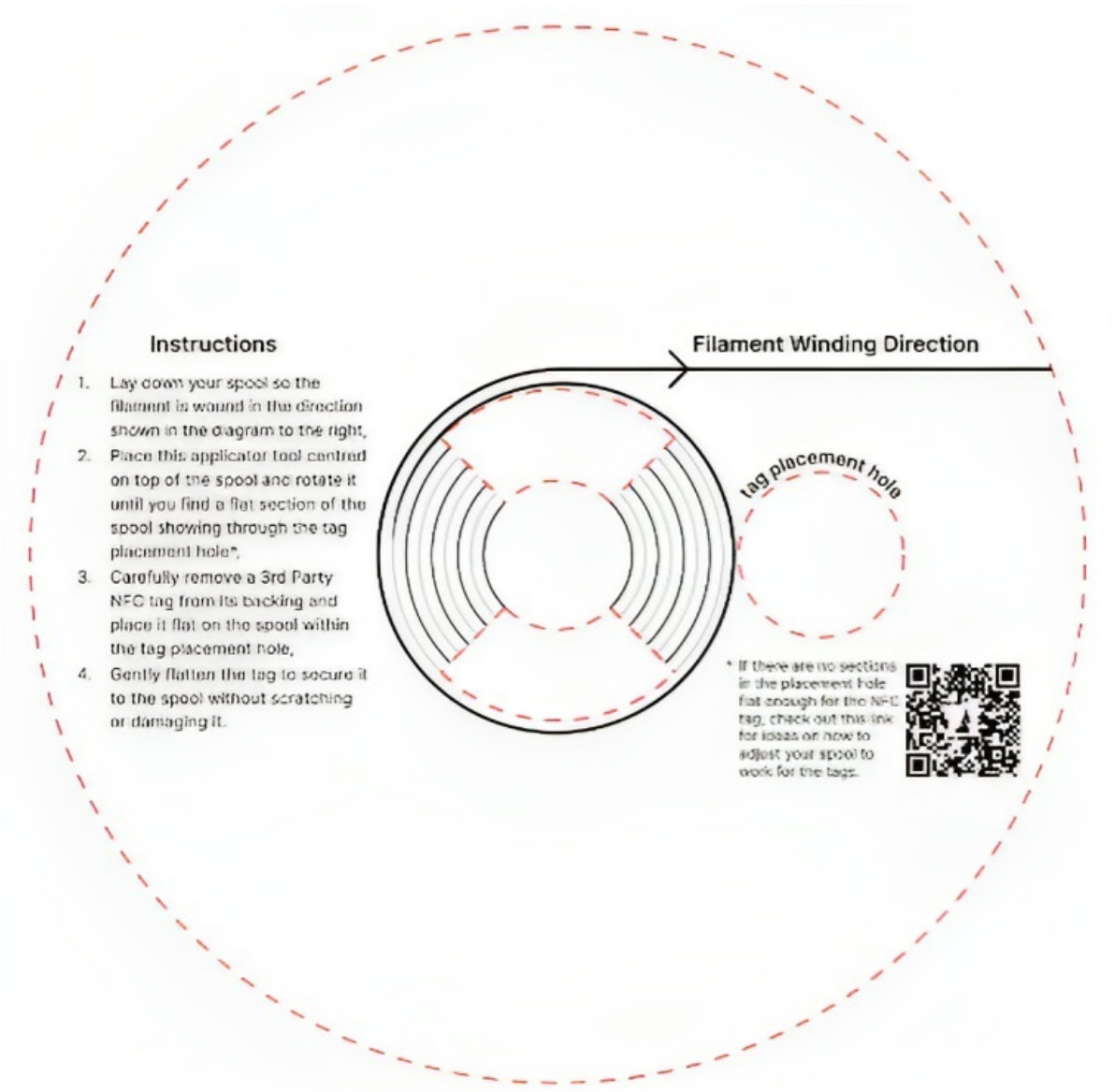
3rd Party Material Tags

Using NFC tags for 3rd party materials with Element and Array

Written By: Jonny Yeu



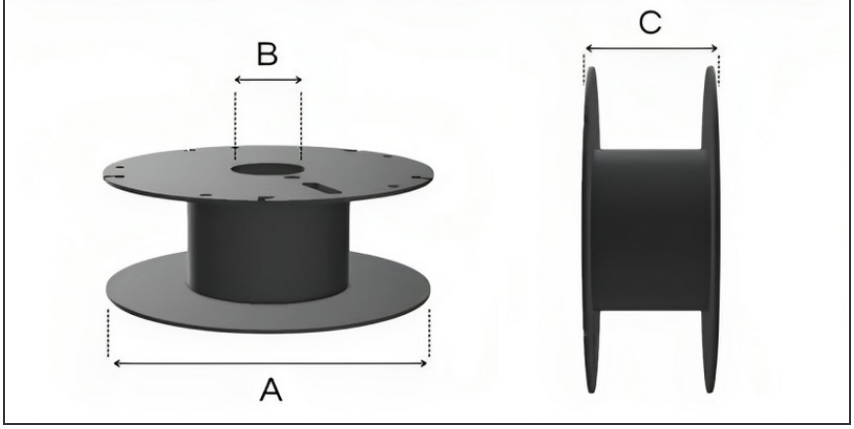
INTRODUCTION

This guide shows how to use our Material Tags with 3rd party materials.

Our Material tags allow Element and Array to read and retain information about a 3rd party spool, even if it is removed from a Material Pod and reloaded later. This helps to make the experience of printing with Element and Array more efficient and reliable.

Step 1 — Choosing a Material

Dimension	Acceptable Range
Flange Diameter A	Maximum 235mm
Mounting Diameter B	Minimum 50mm
Width of Spool C	Minimum 45mm, Maximum 70mm



- Most 3rd party spools that fall within these dimensions, and contain a compatible material, will be suitable for use with Material Pods and 3rd Party Material Tags
- Learn more about 3rd party material compatibility here

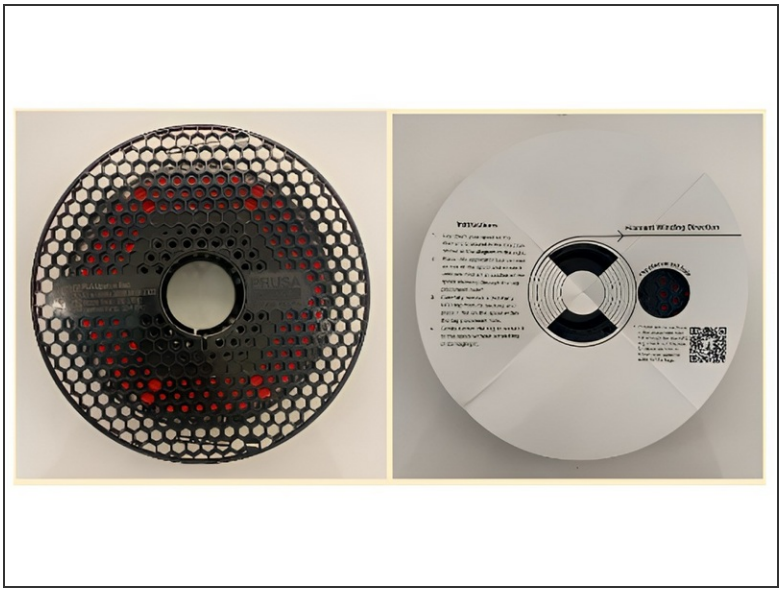
Step 2 — Tag Application Tool



- The Application Tool comes with each pack of 3rd Party Material Tags. If you've lost or damaged your tool, contact us at support@mosaicmfg.com
- To apply Material tags, follow the instructions on the tool, placing the tag in the tag placement hole on a flat section of the spool. It's important to place the tag on a clean and flat surface, so that it will stick reliably and not take damage
- Please note that tags are delicate and can be damaged by bending them or pressing them over sharp geometry. **Tags are not designed for removal and re-use**

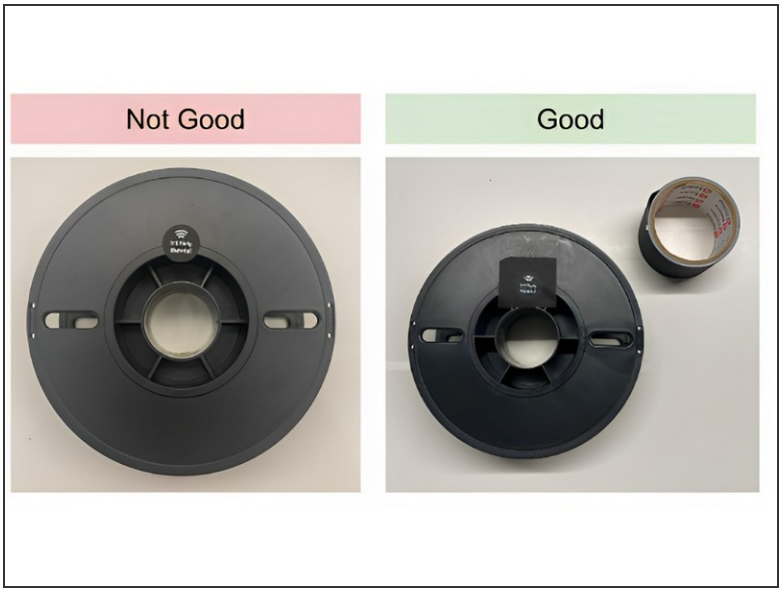
Step 3 — Applying Tags to Non-Flat Spools (1)

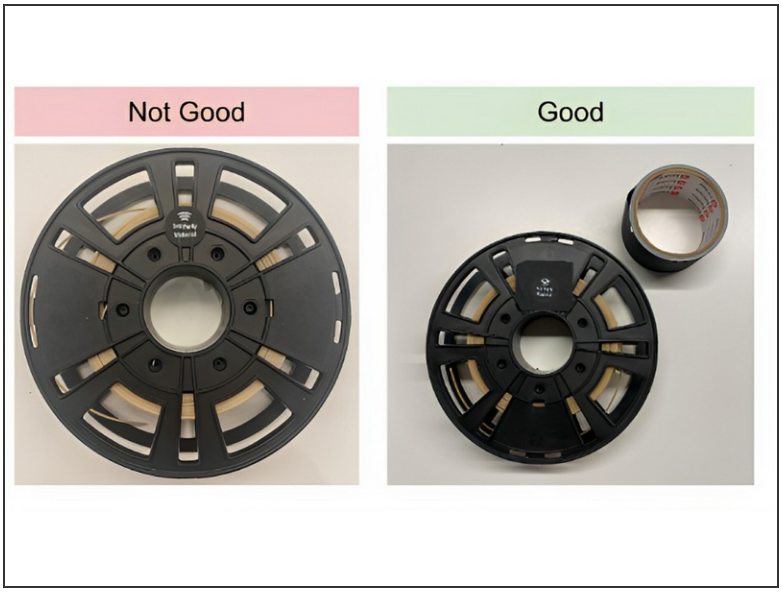




- Some 3rd party spools will not have any flat sections that fit within the tag placement hole. Some examples of how that may look are shown
- In some cases, the Material tag can still adhere to a rough surface and be readable. In other cases, too much bending of the tag or overhanging off the spool will cause the tag to become damaged and unreadable

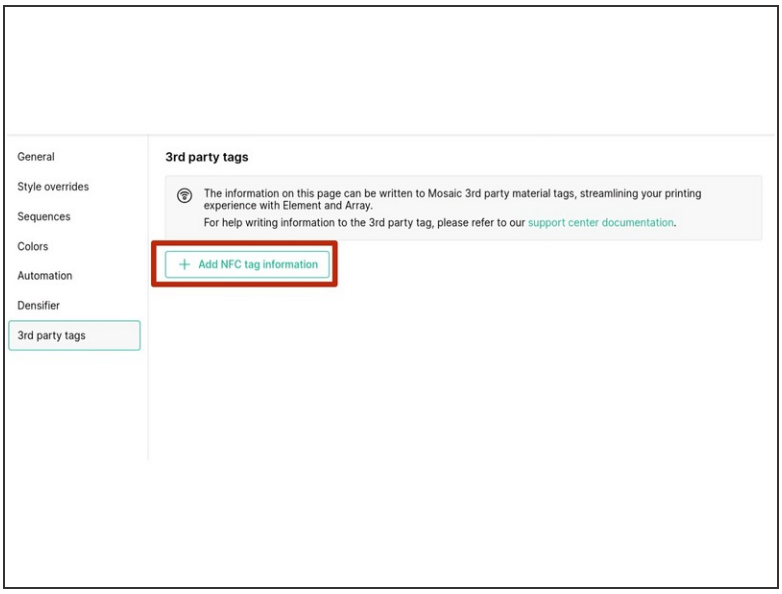
Step 4 — Applying Tags to Non-Flat Spools (2)

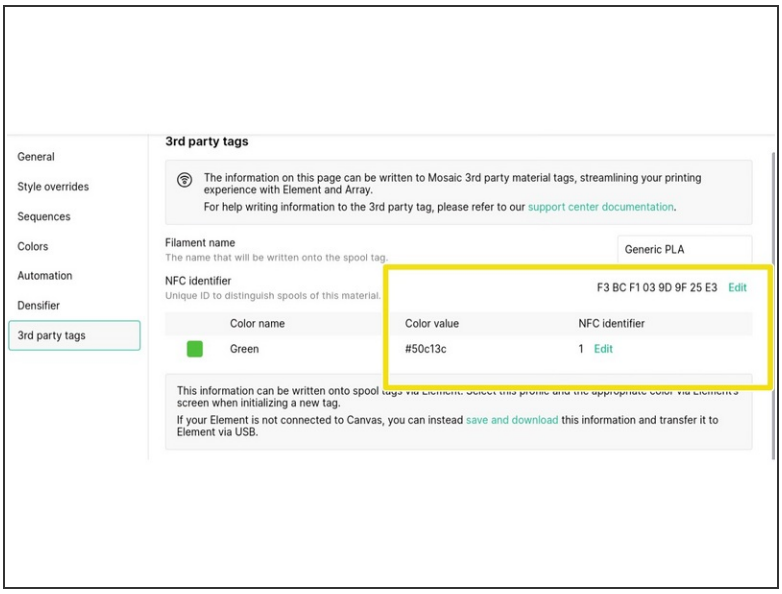




- With a rough or non-flat surface, you can ensure the tag will be readable by flattening the application area as much as possible with tape, before adhering the tag to the spool
- Cover the desired area with a few layers of tape, enough to reduce ridges and eliminate overhanging of the tag
- Some examples of this method are shown

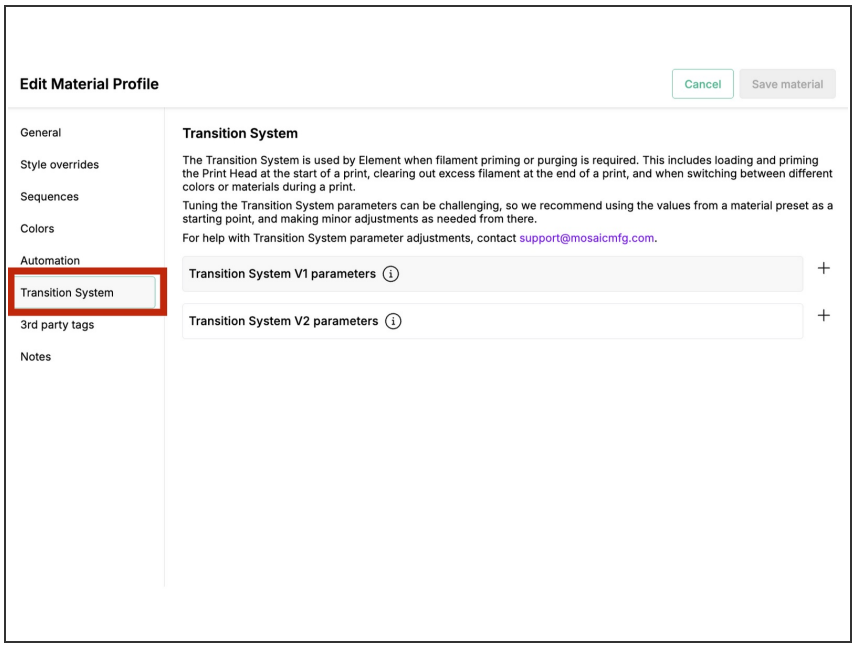
Step 5 — Configuring tag in CANVAS





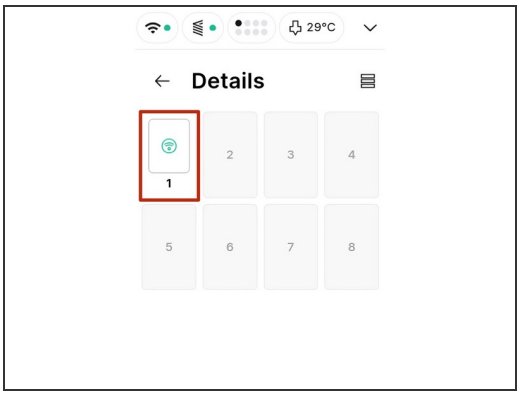
- Create a Material Profile for your material, or use an existing profile. Add the colors you're using in the *Colors* tab of your profile
- In the *3rd party tags* tab, click *+ Add NFC Tag Information*
- A unique NFC identifier will be generated, along with color value codes for all colors. If your Element is not linked to Canvas, save and download the tag information now

Step 6 — Transition System Parameters

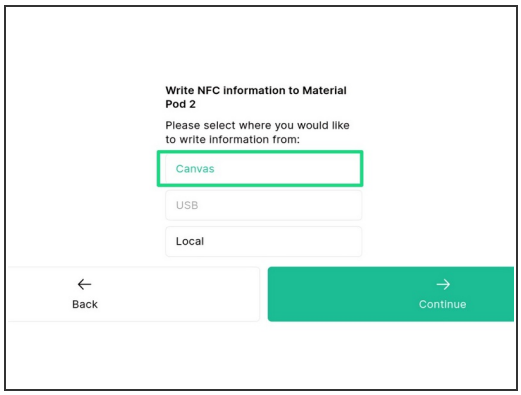


- Element requires transition system parameters in order to successfully purge filament. Go to the *Transition System* tab, and click the '+' symbol to add parameters for Transition System V1 or V2, depending on which you have installed.
  - Element Desktop users will all typically have Transition System V1 installed. Array users may have V2
  - To check, Array users can navigate to *Element > Element Settings > Transition System Settings*. Element users can navigate to *Controls > Configurations > Transition System Settings*
- Parameters that are tuned for Mosaic Materials will automatically be applied. In many cases, particularly with PLA, these parameters should be applicable across all 3rd party materials
- With non-PLA 3rd party materials you may need to tune the parameters in order to ensure success. A full Canvas workflow for this is coming soon - for now, please contact your Account Manager or support@mosaicmfg.com for help with this

Step 7 — Configuring tag on Element







- Insert the spool with the NFC tag into a Material Pod and install in Element. You can use the wheel lock provided with each Material Pod to secure the spool in place

  ⚠ Do not over-tighten the wheel lock on the spool. It only needs to prevent the spool from wobbling, not clamp the spool in place.

- On Element's screen, navigate to *Materials* > *Details*, and click on the unidentified tag

  If using Array, deactivate the Element you're using before writing the tag

- Select *Write NFC Tag*

- If your Element is linked to Canvas, choose the Canvas option. If you're working offline, upload the tag information you saved previously from USB

- Click through the workflow to write the Tag. You should then be ready to start printing!

If you're still having trouble adhering the Material tags, or you're unsure if your 3rd party spools will be compatible with Material Pods - contact us at support@mosaicmfg.com

Interested in Materials that will be guaranteed to work seamlessly with Element and Array? Check out our Mosaic Materials