Sublimation on Plastic

Compatibility and safety checklist | Product approval comes before a temperature setting.

THE DECISION RULE

A plastic recycling code or a polyester coating is not proof of heat safety. Use sublimation only when the exact blank manufacturer documents a suitable receiving surface *and* a safe transfer method for the finished product. [1, 2]

Plastic compatibility: what to do next

Status applies to an ordinary, unspecified item, not every specialized product.

PLASTIC / BLANK	DECISION	WHAT YOU MUST VERIFY
Supplier-rated FRP badge	CONDITIONAL	Specific product ID, coating and manufacturer press directions. Unisub documents FRP badges. [1]
Other sublimation-ready polymer	VERIFY	Named supplier SKU; both the surface and the plastic body must tolerate the specified process. [2]
Polypropylene (PP) / polyethylene (PE)	HOLD	Resin code is not approval. These can also be difficult to bond with adhesive graphics. [3]
PET / PETG	HOLD	Exact product construction, coating and heat limits; do not infer safety from the family name. [2]
Polycarbonate (PC) / ABS	HOLD	The exact grade, receiving layer and manufacturer-approved heat process. [2]
Acrylic (PMMA)	HOLD	Only proceed with a specific sublimation-rated acrylic product and its directions. [2]
PVC / flexible vinyl plastic	AVOID HEAT	Do not trial in a craft heat press: thermal decomposition can create hazardous fumes. [4]
Unknown, recycled or food-contact plastic	STOP	Identify composition, intended use and supplier instructions first. No DIY heating test. [2]

STOP BEFORE YOU PRESS

No exact SKU or supplier instructions? Unclear coating? Item softens, distorts, smokes or smells unusual? **Do not continue heating.** Never use a household food oven for sublimation work. [2, 4]

Check before you press

A short sign-off process for a specific, documented sublimation-ready plastic blank.

Eight-point product verification

- [ ] 01 I have the exact manufacturer, product SKU and intended use.
- [ ] 02 The supplier explicitly states that this finished blank accepts dye sublimation.
- [ ] 03 The underlying plastic and any coating are rated for the specified heating method.
- [ ] 04 I have the blank-specific time, temperature, pressure and removal instructions.
- [ ] 05 My press, fixture and protective materials fit the blank and process.
- [ ] 06 I removed any heat-sensitive parts according to the supplier instructions.
- [ ] 07 I have a ventilated, dedicated work area and appropriate hot-item handling.
- [ ] 08 A small, documented sample is planned before any production batch.

Any unchecked item means HOLD. Ask the blank supplier for documentation before heating an unknown plastic. Do not invent a lower-temperature recipe.

Blank-specific setup and test log

SUPPLIER / EXACT PRODUCT SKU	PLASTIC GRADE / SURFACE OR COATING
APPROVED METHOD / MACHINE	HEAT SETPOINT (MANUFACTURER VALUE)
TIME / PRESSURE / ORIENTATION	INSTRUCTIONS URL OR DOCUMENT REFERENCE
TEST DATE / OPERATOR	OBSERVED CONTACT, DAMAGE, COLOR AND RESULT

If heating is not approved, use a different method

UV direct-to-object printing: possible on manufacturer-approved plastics with the correct ink, curing and primer. [5] **Adhesive vinyl:** check graphic-film suitability and surface energy; PP and PE can be difficult to bond. [3] **Prefer a verified blank:** choose a supplier-documented sublimation-ready FRP item instead of experimenting on generic plastic. [1]

SOURCE LINKS (CLICKABLE)

[1] Unisub | FRP name badges
[2] Cricut | compatible blanks
[3] 3M | plastics & surface energy
[4] NIOSH | PVC thermal products
[5] Roland | UV plastic media