

UV PRINTING VS OFFSET PRINTING

BUTTON BADGES AND ACRYLIC GOODS
COMPARABLE RFQ WORKSHEET



Decision rule: quantity alone is not enough

UV digital inkjet is usually the stronger starting point for short runs, many SKUs, white ink and controlled transparent areas. Offset printing requires plates and make-ready, but it can be efficient for fewer designs at higher volume. Compare both methods with the same artwork, material stack, finishing and finished-product proof.

Evaluate UV first

Short runs, many SKUs, reorders, white ink, clear zones and variable data. Test adhesion and rub resistance separately.

Evaluate offset first

Fewer SKUs, long runs, fine halftones, gradients and spot colors. Include plates, make-ready, lamination and forming in total cost.

Two boundaries to keep in every RFQ

1. There is no universal MOQ where offset automatically becomes cheaper.
2. UV curing does not automatically prove adhesion, rub resistance or end-use compliance.

PROJECT

SUPPLIER / FACTORY

DATE

01 Confirm product construction first

The printed layer may be on metal, paper, PET film or acrylic. That position changes appearance, adhesion, cracking, lamination, forming and inspection requirements. Name both the print method and the full layer stack in the quotation.

BUTTON BADGE - THREE COMMON STRUCTURES

01
Paper + PET wrap

CLEAR PET

PRINTED PAPER

METAL SHELL

Common button-badge structure. Inspect edge wrinkles, wrap position, PET scratches and moisture effects.

02
Direct offset metal

PROTECTIVE VARNISH

OFFSET INK

COATED METAL

Printed while flat, then formed. Define registration, forming tolerance, varnish and coating compatibility.

03
Direct UV metal

UV INK

WHITE / PRIMER

METAL

Candidate for short runs and many SKUs. Test metal pretreatment, adhesion, abrasion and forming.

ACRYLIC - THREE COMMON STRUCTURES

01
Front UV

UV INK / WHITE

CLEAR PMMA

The ink is exposed. Approve color and white coverage, then test touch, rubbing and package contact.

02
Reverse UV

CLEAR PMMA

MIRRORED CMYK / WHITE

Viewed through acrylic. Define mirroring responsibility, viewing direction and color/white order.

03
Offset PET laminate

CLEAR PMMA

ADHESIVE

PRINTED PET

The film is printed, then laminated to acrylic. Inspect bubbles, haze, edge lift and delamination.

PUT THESE ITEMS IN THE RFQ

Print side, viewing direction, white-layer position, clear zones, PET lamination, material grade, surface treatment and the final exposed face.

02 19-point process comparison

NO.	COMPARISON	UV DIGITAL	OFFSET
01	Image formation	Digital droplets placed directly	Plate to blanket to print medium
02	Conventional plates	Not required	Normally required per color or plate
03	Fixed setup cost	Usually lower	Plate making and make-ready are usually higher
04	Variable cost	Print area, white, layers and time	Long runs can lower unit cost
05	Many SKUs	Flexible file switching	Plates, proofs and management multiply
06	Variable data	Names and numbers are practical	Not a normal fit for conventional offset
07	Clear material	White and clear zones are digitally controlled	Often uses a compatible clear film
08	Thick rigid sheet	Flatbed UV may handle it	Conventional offset normally does not
09	Photos / gradients	Depends on heads, droplets, RIP and surface	Fine halftones are easier to standardize
10	Spot colors	Usually simulated within the device gamut	Custom-mixed spot inks can be used

03 19-point purchasing comparison

NO.	COMPARISON	UV DIGITAL	OFFSET
11	White ink	Common dedicated channel	Needs suitable equipment or opaque layer
12	Clear / texture	Selective digital layering	Usually varnish, embossing or finishing
13	Ink film feel	May show texture or raised edges	Normally flatter and smoother
14	Production speed	Fast short-run setup; scanned output	Longer setup; strong continuous-run efficiency
15	Drying / curing	UV or LED-UV crosslinking	Absorption, oxidation, heat or UV
16	Adhesion	Surface, cleaning, primer and cure	Material treatment, ink-water balance and drying
17	Rub resistance	Test or protect exposed ink	Check film protection, varnish or metal coating
18	Reorders	Small replenishment is easier to restart	Restore plates, setup and color standard
19	Quote drivers	SKUs, white coverage, area and layers	Plates, imposition, volume, colors and finishing

COMPARE LANDED COST, NOT ONLY THE PRINTING UNIT PRICE

UV = setup + CMYK + white/clear + jig + finishing + reject/reprint allowance

Offset = plates + make-ready + print + lamination/forming + waste + stock/reorder conditions

Always state quantity per SKU and use the same finished size, packing and QC conditions for both quotations.

Artwork, proofing and quality approval

ARTWORK PACKAGE

- ☐ **CMYK artwork**
Final file plus embedded or packaged links
- ☐ **White layer**
Independent spot layer, coverage and choke/spread
- ☐ **Clear layer**
Independent effect layer and build-height target
- ☐ **Cut line / holes**
Closed vectors on a separate layer
- ☐ **Bleed / safe area**
Use the actual production template
- ☐ **Reverse print**
State mirroring responsibility and view side
- ☐ **Spot colors**
Pantone reference, edition and substrate
- ☐ **Revision control**
One approved version with date and owner

COLOR AND WHITE APPROVAL

- ☐ **Production material**
Freeze PMMA/PET/paper/metal and surface
- ☐ **White sequence**
Front/reverse and color-white order
- ☐ **Viewing direction**
Front, back, through acrylic and background
- ☐ **Critical colors**
Skin tones, dark solids and brand colors
- ☐ **Lighting**
Light source and viewing geometry
- ☐ **Master sample**
ID, date, approver and retained quantity
- ☐ **First article**
Match color, registration and construction
- ☐ **Reorder tolerance**
State acceptable lot-to-lot difference

PHYSICAL SAMPLE - TEN ACCEPTANCE CHECKS

- ☐ **Adhesion**
Cross-cut/tape method, grade and timing
- ☐ **Rub / scratch**
Material, load, cycles and direction
- ☐ **Cure**
Tack, odor, hardness and downstream bond
- ☐ **Color**
Master sample, light and tolerance
- ☐ **White**
Voids, halo, pinholes and opacity
- ☐ **Registration**
CMYK, white, film and cut line
- ☐ **Clarity**
Haze, dust, bubbles and adhesive marks
- ☐ **Cut / fit**
Dimensions, holes, slots and base fit
- ☐ **Assembly**
Crimp, pin direction and pull
- ☐ **Packaging**
Film, bag, card, stacking and scuffing

DO NOT USE UV-CURED AS THE PASS RESULT

Curing describes the ink reaction. Acceptance still requires agreed adhesion, rub, clarity, assembly and packaging results on the actual production construction.

05

Comparable RFQ - 14 required inputs

Use one completed specification for both UV and offset quotations. Write supplier proposal requested for an undecided item instead of leaving it ambiguous.

01

Product

Badge, stand, keychain or other item

☐

02

Finished size

Dimensions, thickness, diameter and tolerances

☐

03

SKU + quantity

Per design, total and likely reorder quantity

☐

04

Print construction

Direct metal, wrap, front/reverse UV or PET laminate

☐

05

Color

CMYK, spot, white, clear and critical colors

☐

06

Viewing direction

One/two sides and view through acrylic

☐

07

Materials

Tinplate, paper, PET, PMMA, adhesive and protection

☐

08

Finishing

Varnish, lamination, cutting, forming, hardware and base

☐

09

Packaging

Protective film, bag, card and individual/group packing

☐

10

Proofing

Digital proof, structure sample and physical color sample

☐

11

Quality

Adhesion, rub, color, registration, dimensions and sampling

☐

12

Schedule

Proof, production, split delivery, Incoterms and destination

☐

13

Artwork

Cut line, white layer, format, links and revision

☐

14

Compliance

Sales market, intended use and required documents

☐

SUPPLIER QUOTE COMPARISON

UV TOTAL LANDED COST

OFFSET TOTAL LANDED COST

APPROVED METHOD

PROOF / SAMPLE ID

APPROVER

APPROVAL DATE

Attach this worksheet to the inquiry or copy the completed fields into the contact form. Keep the approved physical sample and the final artwork revision with the purchase record.