

Printing methods

Choosing the right printing method is crucial to achieving the best results for your specific application. This guide provides a clear comparison of three popular printing technologies—**Dye Sublimation, Latex, and UV Printing**—highlighting their unique advantages and limitations.



Velaria Systems has partnered with PONGS to offer their DESCOR system for covering walls, that completely redefines exclusive room design and is the modern alternative to conventional wallpapers and coverings. Clever features enable new room architectures featuring seamless, smooth surfaces that deliver acoustic performance and unlimited design possibilities in a single system.

Getting Started

The Velaria Systems Design Studio will assist you in determining the textile and mounting system that best suits your application and work with our partner, PONGS, to ensure a successful outcome at every stage of your project from concept-to-commissioning.

The best way to get started is to contact the Velaria Systems Design Studio: designstudio@velariasystems.com

Feature	Dye Sublimation	Latex	UV
Substrate type	Polyester	Polyester	Polyester
Color vibrancy	Excellent	Good	Good
Durability	Moderate	High	Very High
Environmental	ECO-friendly	Low VOC (Odorless)	Moderate
Light Blocking	Moderate	High	High
Application Speed	Moderate	High	High
Softness	Excellent	Good	Poor

Dye Sublimation Printing

Uses heat to transfer dye onto material such as fabric, ceramics, and metals with a polymer coating.

Advantages	Applications	Available Products
Excellent color vibrancy and durability on polyester fabrics		
Soft feel with no additional layer on fabric (ink becomes part of the material)	Interior soft signage	AKUSTICO NewLife FR
Highly resistant to washing and wear	Acoustic panels	AKUSTICO print media
Eco-friendly with water-based inks and no VOC emissions	Wall coverings	DESCOR PREMIUM Dry & Clean SOUNDSCAPE

Latex Printing

Utilizes water-based latex inks that cure with heat, suitable for flexible and rigid materials.

Advantages	Applications	Available Products
Works on a variety of textile types, including synthetic and some natural fibers		AKUSTICO NewLife FR
Water-based links with minimal VOC's, making it safe for indoor applications	Wall graphics	AKUSTICO print media
High flexibility and stretchability, ideal for soft signage and interior decor	Corridors	DESCOR PREMIUM
Fast drying and no need for post-processing like heat pressing	Window facades	SILENCIO Size 5 SILENCIO NewLife FR Size 5 SILENCIO NewLife FR Size 10

UV Printing

Uses ultraviolet light to cure ink directly onto a wide variety of substrates

Advantages	Applications	Available Products
Can print on almost any textile surface, including natural fibers		AKUSTICO NewLife FR
Instant curing and high durability for non-washable applications	Decorative elements	AKUSTICO print media
Can achieve unique textured and embossed effects	Backlit panels	DESCOR PREMIUM
Can achieve the darkest black color	Rigid textile signage	DESCOR PREMIUM Acoustic
	High circulation areas	DESCOR PREMIUM Dry & Clean
		SILENCIO Size 5 SILENCIO NewLife FR Size 5 SILENCIO NewLife FR Size 10 SOUNDSCAPE

Printed Fabric Requirements

Process for Printed fabrics:

1. Budget stage:

- a. The part numbers for the area and setup fees can be used to get accurate pricing at both the budget and submittal stages.
- b. Please budget two copies of the image being printed to allow for a back up if the first is damaged.

2. Submittal stage:

- a. At the submittal stage the design team will create a soft proof as part of the submittal
 - i. The image files should be sent to the design team at the same time as the request for a submittal.
- b. If printed fabric is being added or changed on a project after the submittal is created a new revision must be created with the soft proof section updated and part descriptions as needed.
- c. Require a full resolution image that will be checked for sufficient resolution and quantity by Cooledge.

3. PRD stage:

- a. Before printed fabric can go into fulfillment we need the following:
 - i. Signed soft proof created as part of the submittal verifying the customer's acceptance of the alignment of the luminaire with the image.
 - ii. Full resolution image verified by design team or marketing team with no outlines of the luminaire.
- b. All printed fabric projects require a prd stage for the design team to create the required part numbers and documents for production as follows:
 - i. Design team will create custom 97-# part
 - ii. Full resolution image with scale adjusted as needed.
 - iii. Soft proof with and additional printing details added.

4. Fulfillment

- a. Fabric is printed and shipped.

Soft proof:

What the design team/marketing requires to create a soft proof:

- Image:
 - » Ideally with an outline of the luminaire overlaid on top of the image and showing what part of the image will be outside the luminaire.
- File name of full resolution image matched to the luminaire it goes on.
- Location in project/customer reference number
- Ideally provide information on the height/distance that the luminaire will be mounted from the wall or ceiling and the observer so we can give better feedback on the required image quality.

What the soft proof contains for each luminaire with printed fabric.

- Image:
 - » With an outline of the luminaire overlaid on top of the image
 - » Shows what part of the image will be part of the bleed and outside the luminaire. Minimum bleed is 6inches for complicated designs more may be required.
- File name of full resolution image
- Part number of Cooledge luminaire it is being installed on.
- Size of printed area (includes bleed)
- Size of luminaire
- We will note if the full resolution image is sufficient or we have concerns.
- Optional:
 - » Location in project/ customer reference number
 - » Notes on any Cooledge concerns about resolution or other printability.

Printing fabric guidelines:

Bleed:

- Require a minimum of 6in(150mm) of bleed area on all sides (printed area outside of the luminaire).
- Recommend 12in(300mm) bleed on all sides for more complicated shapes or when available.
- For logos printed in the middle of the luminaire on a solid colored background; a minimum of 6in clearance between the frame and the logo is required to prevent the logo from ending up partly outside of the luminaire frame.
- All images need a bleed area of extended image or other fill as the process of installing the fabric on the luminaire requires some tolerance for aligning the graphic.
 - » For solid colors on the edge the color will be extended 6inches past the frame on all sides
 - » For images they need to be extended 6inche beyond the frame

Image format:

- The image file should be in the latest version of the Adobe Creative Cloud Apps: InDesign CC, Photoshop CC, Illustrator CC. It is possible to print from PDFs if they are generated in Illustrator or InDesign.
- In addition to the image file please provide an accurate color PDF file of each print, if possible.
- Vector data files are preferable as they permit greater scaling than raster graphics, which can become pixelated when scaled.
- Resolution can be subjective and varies with the project, the expectations for the print and the viewing distance. Shorter viewing distances generally require higher resolution. Resolution should be evaluated as ppi (pixels per inch) on the finished, actual-size print.
- Data for prints below a size of 1 sqm should be edited in a scale of 1 : 1 with 60 up to 100 ppi.
- Data for prints larger than 1 sqm should be edited in a scale of 1:10 in relation to the final format size. The resolution of data should at least be 600 up to 1000 ppi maximum, resulting in a resolution of 60 to 100 on the actual print.
- With very large viewing distances even 360 ppi in the image may be sufficient (36 ppi on actual print).
- Image files should be converted CYMK color space before printing.

DPI and resolution of image

- The two important factors related to image quality are DPI and Resolution.
- The DPI (same as PPI) determines how clear the image will be and different viewing distances for large scale printing. Below is a table showing the relationship between DPI and viewing distance:

Viewing distance	Suggested resolution
0.6m / 2ft	300 dpi
1m / 3.3ft	180 dpi
1.5m / 5ft	120 dpi
2m / 6.5ft	90 dpi
3m / 10ft	60 dpi
5m / 16ft	35 dpi
10m / 33ft	18 dpi
15m / 50ft	12 dpi
50m / 160ft	4 dpi
60m / 200ft	3 dpi
200m / 650ft	1 dpi

- The resolution determines the clarity and detail the image has.
- The higher the resolution we the more detail we can keep as we enlarge the imagine.