Potential to Print on Glass

with a traditional UV-LED Flatbed Printer

Photogenic Results of Printing on Glass

at Sisecam

using A.T. Inks

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Introduction to printing on glass

If you can print on glass you can win over new clients. Printing traditional signage on PVC vinyl is the usual way to start a large-format printing business. But what if you can offer clients printing on glass, on metal, and other innovative materials?

I have attended the glass manufacturing and glass printing trade show in Italy about three times. This is the most important glass expo in the world: Glasstec, in Dusseldorf. This is held every two years, so the next one is Glasstec 2020.

At a trade show of this size you get every kind of printer for glass, especially million-dollar single-pass continuous-feed printers. These printers are made solely to print on glass and thus they use specially made inks just for glass.

But if you are a family business or a start-up, a million-dollar printer is not an option (besides the fact that such a printer will take up more space than most print shops have available). Plus, “glass ink” (inorganic ink made specifically to print on glass) is not a normal CMYK ink. This means you do not get most of the bright colors of UV-curing ink.

So in order to assist print shops around the world we at FLAAR-REPORTS look for more realistic options. Yes, there are other specialized inks that can print on glass, but for a start-up, for a mom-and-pop print shop, it is more realistic to begin with a printer that can print on lots of different kinds of materials, since you will always have clients who want billboards, signs, and POP printed on traditional signage materials. So a flatbed printer is a good option to start with.
There are several kinds of printers for flat rigid material:

- True flatbed printers; we call these dedicated flatbed printers.

- There are flatbed printers; which can also handle roll-fed material. If they include a full-size true flatbed these are also usable.

- There are printers with transport belts, with a table at the front and a table at the back. So you can feed flat thick material (when you use the tables). Or you can print on roll-fed (when you remove the tables). Downside is that slippery material may stutter a bit. So for glass, unless you have a quarter-million dollar transport belt printer, it is best to stick with a true flatbed.

- A fourth printer structure is what we call a hybrid but really it is a faux flatbed (a pseudo-French way of saying it’s a fake or a pretend flatbed). We do not recommend buying any pseudo-flatbed. Indeed our warning about the potential inability of this kind of flatbed literally changed the printing industry (because FLAAR-REPORTS are read by over 700,000 people around the world). So more than half the companies that tried to sell these faux-flatbeds either stopped making them or at least stopped exhibiting them with the roll-up tables.

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**FLAAR Classification of UV Printers according their Feeding Mechanism**

1. **Dedicated Flatbed**
   - A dedicated flatbed printer prints only on rigid boards, unless it has a roll-to-roll mechanism at the front.

2. **Dual Structure: R-t-R over top**
   - You load at the back and take-up at front.

3. **Dual Structure: R-t-R across front**
   - A dual structure is a flatbed printer with a roll-to-roll mechanism at the front.

4. **Combo**
   - A combo printer moves media with a conveyor belt. It can print both rigid and flexible materials.

5. **Hybrid**
   - A hybrid printer moves rigid and roll-fed media with:
     - pinch rollers and
     - grit rollers
   - But rigid media is usually not too thick (less than 1")

6. **Dedicated roll-to-roll**
   - A dedicated roll-to-roll printer will handle only flexible media. The widest printers reach the 5 m. long.
It helps if you can provide tips to your clients on design

Each of us has different preferences for kinds of design. So there is no one single perfect design concept. But we of FLAAR-REPORTS enjoyed seeing the various design concepts bring printed on glass by Sisecam Flat Glass company in Vadodora, India.

A kind of wood grain background with square and rectangular geometric designs is an innovative combination of a natural design (wood grain) and a computer generated design.
This kind of design is good for enclosures where a plain wall would be dull and boring.

I must admit I love flowers, to the extent that we at FLAAR Mesoamerica (a research division in Guatemala of FLAAR (USA)) study flowers in the remote rain forests of Guatemala, Central America.

This artist did a good job because the petals are not boring.
Flowers decorate wall murals around the world. The Aztecs, and at Teotihuacan, and in Mayan murals you find flowers. My PhD dissertation had a chapter on water lily flowers in the A.D. 4th-9th century Classic art of the Maya of Mexico, Guatemala, and Honduras.

Note that some of these glass designs are one color, others are two colors, and others are more colors. Each has a different effect. I like them all.
Here the artist has selected the flower to stand out from the leaves. If you are a print shop it really helps to have a wide diversity of options for your clients. This way each client will find a style that they wish you to print for them.
The artists who create these decorations use a diversity of design concepts. And the inks from A.T. Inks do an excellent job of rendering each design concept.

Leaves and stems are here curling under geometric shapes. You can see the see-through effect (you can see the face of a person who is holding the glass for me to photograph it).
Because this design has rectangular shapes overlapping more naturalistic designs I estimate this is the style of a particular artist.

The colors rendered by the ink have a subtle beauty.
Two more examples of glass successfully printed with UV-LED curing inks from A.T. Inks.
These additional printed glass images show the range of colors you can achieve with A.T. Inks.

Pinks, dark blue, greens, reds, oranges, and gold all show up nicely.
Realize the reality of printing on a slippery surface

At any large signage printer expo 75% of the catalogs of UV-curing printer brands claim their printers can print on glass, metal, and ceramics. But they do not admit that you may need to clean the glass, and then apply a pre-coat treatment, etc.; the printer brands do not explain how their machine can help you produce a finished printed image on the slippery surface of glass.

This is the UV LED curing printer at work printing on glass.
So it helps if you can speak with individuals who have experience in printing on glass. During our several days in the Vadodara area of India we also visited printing companies successfully printing on metal with UV-LED curing inks from A.T. Inks. Printed metal we show in a separate FLAAR-REPORTS.

Further example of A.T. Inks on glass.
We thank the team at SISECAM FLAT GLASS

We appreciate being driven to the printing company Sisecam Flat Glass and we thank the owners and team for their hospitality and for access to how they are successful (hint, the kind of ink you use, and your experience with this ink, definitely help printing on atypical materials).

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