

in-focus



Real world experiences of Mimaki users



Quality Acrylic Creations A Matter of Clear Design



Acrylic is everywhere, you see it in stores of every description, it is present in offices, even homes have acrylic features and fittings. It is used in every type of industry for display stands and cases, product stands and point-of-sale displays. It is a highly versatile material but this omni-presence belies the difficulties and challenges associated with handling the material.

It is subject to unpredictable stresses which can result in damage to the acrylic. It is also difficult to handle when a printed image has been applied to it. Both these factors mean that the finished article can be negatively affected by the mere manner in which the material is handled. All the applications for which acrylic is used share one thing, the aesthetic appearance is of paramount importance.

For those companies looking for acrylic creations, what is required is a company which knows and understands the intricacies of handling acrylic materials. Clear Design was founded in Cape Town 18 years ago by owner Darren van Eyk. While the idea was never to make a long term career of producing perspex and plexiglass display items – both types of acrylic, Darren quickly realised that he had a knack for doing just this and an understanding of the methods required for the effectively handling the material.

He commented, 'It was a learning process because acrylic products present their own set of challenges. While it appears to be a very easy

product to work with, any number of things can go wrong which can affect the outcome of the job. I taught myself and then used that experience to teach my small staff at the time. I thought I would do this for a few years while I studied to become a commercial airline pilot. Now, 18 years later and with a staff complement of 22, we are still doing it and we modestly believe we are among the leaders in the South African market.'

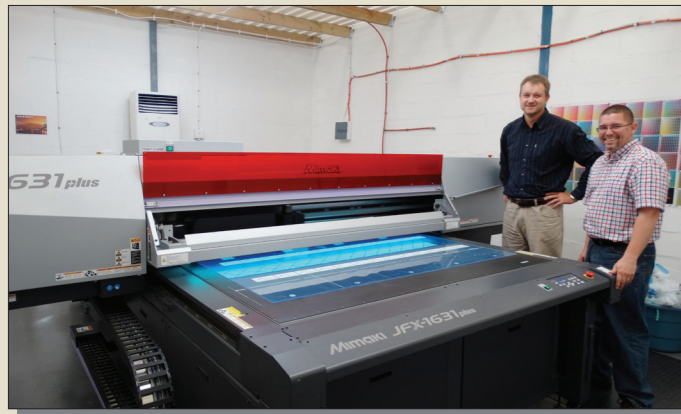
At its formation, all production processes at Clear Design were handled manually from cutting and polishing to contouring and mounting. Darren added, 'When you cut perspex the cut edge becomes opaque and this has to be polished in order to return it to its transparent state. When you do this manually it takes many hours and is a very physically demanding process. Some companies try to cheat at this stage and use heat to return the material to its natural clear state. While this does work, it also places the material under stress with the result that when it is cleaned using solvents the material cracks. Some companies try to pass this off as a flaw in the material, but with proper handling the cracking will not occur.'

Darren and the team at Clear Design have learned, through a process of elimination, what works and what does not. Part of the initial learning process came from the fact that its early clients were international companies based in Sweden and the United Kingdom. Visits to suppliers in these markets gave Darren a better understanding of how acrylic materials should be handled and treated to achieve the best results.'

THE TEAM PLAYERS:

The End-user	Clear Design	www.cleardesign.co.za
The Dealer / Distributor	Graphix Supply World	www.gsw.co.za
The Machine	JFX1631plus	www.mimakieurope.com





Each stage of development within the company has seen another level of automation being introduced with the aim of streamlining processes or eliminating strenuous physical endeavours in order to reduce the impact on staff or speed up turnaround times. The first addition was a cutting table allowing the acrylic materials to be cut in preparation for polishing and finishing. This is more accurate and faster than hand cutting. Other additions included CNC cutting and routing machines, a diamond-tipped polishing machine and even a laser cnc for cutting. All of these machines have been added to aid the finishing and assembly of the various products.

There was, however, one aspect of the production process which was still out-sourced – the printing.

Said Darren, 'We were out-sourcing our printing but this meant that we had no control over the quality of printing or how our materials were handled when they were out of our hands. This resulted in many printing related problems, delays and repeats. We were reliant on the printers and at their mercy.'

Three years ago Darren started looking for the right printer to be able to bring the printing in-house. However, there were a few prerequisites which narrowed the list of potential machines. Darren commented, 'We looked at all of the usual players in the large-format market but we had very specific criteria. Firstly, the inks had to have a high degree of flexibility and stretch. Secondly, we needed UV inks but they could not be heat-cured inks as the heat would introduce stresses into the acrylic.'

While Darren knew logically that a printer with these characteristics must exist, the search seemed to be in vain. Darren solicited the help and advice of long-time friend Mark Brandenburg who had worked in the large-format market for many years. His first and most emphatic suggestion was that Darren look at Mimaki. This was based on his very favourable experience with Mimaki printers over the years.

Following visits to various of the large-format printer manufacturers, Darren made the decision in favour of the Mimaki JFX1631 Plus UV LED printer. This printer met both of his initial prerequisites. The UV ink which is applied to the acrylic materials features a stretch ratio of 200 percent allowing elements to be printed and then shaped without any of the cracking of the print which is normally associated with digitally printed images on shaped acrylic. The second factor is that the UV ink is dried or cured using LED lamps rather than the normal heat lamps or hot-air dryers.

The JFX1631 Plus printer even goes so far as to offer Clear Design more flexibility than Darren originally considered. It features the ability to handle two different ink sets, the Flexible UV ink for applications where the printed material will have to be moulded and, the Hard UV ink for rigid applications. It is also flexible in many other ways, it can handle print onto a wide range of materials including glass, wood, board, paper and vinyl, in fact any substrate up to 48mm thick onto which the ink can be printed.



Said Mark, 'When Darren was considering installing a printer, I told him that I wanted to be part of this particular expansion of the business. It is exciting and the Mimaki printer is a big part of that. It gives us the ability to print so many different jobs and it is fascinating to then see how the printed elements become the final product.'

Darren added, 'The Mimaki JFX1631Plus printer has done so much more than bring control back in-house, it has given us the ability to make our customers' visions come to life. We know how to handle the various materials we print onto and we know how to turn them into quality finished products. All we needed was the printer to allow us to handle the full spectrum of work from origination through to finished product.'

'In the almost two-and-a-half years since we installed the printer we have learned the best way to do things and how to achieve the best results for our clients. We now know what works and what to avoid. For some time we believed that there was still a lot we could learn but have recently found that our work is equal to anything being produced in Europe and, in some cases, is of a better standard.'

Productivity is an important element in ensuring client satisfaction and to this end, Mark ensures that the Mimaki printer is well looked after. A daily cleaning regimen ensures that heads operate optimally and that printing will not be interrupted. The machine only runs for one nine-hour shift per day unless overtime is required for longer or rush jobs. Only Mark and Darren run the printer as this ensures a consistency in operation which enhances the lifecycle of the machine and the heads.



All work is entered into the system by Natasha Anthony, who Darren describes as being the power-house of the company. She controls admin, oversees booking-in and despatch of jobs and generally runs the tightest of ships. She also ensures that photographs are taken of every single item produced in the factory as a visual record in order to be able to show future clients the capabilities of the company.

The range of products manufactured by Clear Design is only limited by the imagination of the client and even here, input from the team will often result in a more exciting alternative. Darren commented, 'If you can imagine it, our skilled designers will work with your ideas to create the product you are looking for. This includes elaborate sporting trophies, clear domes for domestic and office skylights, promotion materials and stands, plexiglass furniture and so much more. We have even developed techniques and methods for printing onto irregular shapes where the forming cannot be done post-printing.'

Such is the reputation Clear Design has developed for quality that it has attracted clients from around South and Southern Africa and has a growing list of international clients as well. With its proven workflow and reasonable pricing, Clear Design is able to handle orders of any size from a single product through to large orders numbering in the hundreds or even thousands.

So, if you are looking for a striking Perspex or Plexiglass brochure stand, display stand or a seven-piece table and chair set for your office, printed with your company logo, then Clear Design, is clearly the place to contact. Darren, Natasha, Mark and the team at Clear Design will make your vision a reality and maybe even a bit more.

the machine: JFXplus Series

- UV LED CURABLE
- 23.6 m²/h MAX. PRINT SPEED
- FLEXIBLE/HARD INK OPTIONS
- 1200dpi MAX. RESOLUTION
- 50mm MAX. MEDIA THICKNESS
- 4 / 6 COLOURS
- WHITE INK / CLEAR INK / INKJET PRIMER
- OPTIONAL ROLL UNIT



Imagine what you could achieve with a **Mimaki...**

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