

Robert Christ

The art of making glass

For close to a hundred years, the internationally renowned glass manufacturer Lamberts in Waldsassen, Germany (FIG. 1) has been praised by artists for the outstanding brilliance, texture, transparency and vibrant colours of its mouth-blown flat glass. Readers will recognise the names of artists (and former contributors), including Judith Schaechter, Brian Clarke, Tom Denny, Martin Donlin, John Reyntiens, Alexander Beleschenko, Helen Whittaker, Rachel Mulligan and Petri Anderson, among many others. For many years The Journal of Stained Glass has been fortunate to receive the generous support of Lamberts as a regular advertiser. This article, written by the head of marketing at Glashütte Lamberts, introduces some of the firm's principal products and describes their characteristics.

In the world of architecture and art, there is one material that stands out from all others because of its transformative quality: Glass. This article provides a glimpse into the artisanal process behind this exceptional medium, showing how the master craftsmen at Lamberts have combined centuries-old traditions with innovative techniques to create glass that shines with an individuality all its own.

The process begins with a trio of simple materials: quartz sand, soda ash and lime. Mixed in varying proportions, they form the basis for the composition of the glass. Depending on the type of glass desired, various other substances such as minerals are mixed together to achieve the desired colour.

The mixture is then placed in a furnace where it is subjected to an incandescent heat of 1450 degrees Celsius for fourteen hours, transforming the granulated mixture into a molten glass that is ripe for processing by the artisan. A glassmaker equipped with a special pipe retrieves the molten glass from the furnace, a process that requires not only skill but also an innate feel for the material, a tacit understanding of how it responds to the artist's intentions (FIG. 2).

FIG. 1:
The listed factory
hall of Lamberts
in Waldsassen,
Bavaria, Germany.





FIG. 2:
The starter shapes
the glass taken
from the furnace.

The molten glass is then worked in a series of wooden moulds, shaped and transformed through a carefully balanced act of rotation and blowing. The master glassblower shapes the glass bubble into its final form, giving it a precise shape and structure – a process that can only be achieved through years of experience (FIG. 3). After shaping, the glowing glass bubble is opened and widened at both ends to create a cylindrical structure. After a cooling phase, this cylinder is cut open lengthwise and heated again. This cycle of heating and cooling, manipulation and transformation culminates in the production of a glass sheet that is smoothed with a special tool.

The glass sheet is then annealed, a cooling process that strengthens and relaxes the glass and makes it less prone to cracking. Each sheet undergoes careful quality control to ensure that only the best pieces leave the Lamberts factory.

Lamberts Glass produces several types of mouth-blown flat glass, each with its own characteristics and uses. The Genuine Antique method is used to produce glass sheets measuring about 60 x 90 cm, varying in thickness from 2 to 4mm.

Flashed glass

Flashed glass is a unique type of multi-layered glass, characterised by a thin layer of coloured glass fused onto a thicker clear or tinted base layer. The production of flashed glass is an extremely complicated process in which the glassmaker, with skilled hands and a trained eye on the pipe, applies a coloured or ‘flashed’ layer to the still molten base glass so that the two layers blend seamlessly. The result is a visually appealing, multi-coloured glass that reveals its true complexity when light refracts through the different layers (FIG. 4). While flashed glass is visually arresting, it’s not just about aesthetics. This type of glass making is also functional. By etching or abrading the thin layer of outer colour, detailed designs and patterns can be created that reveal the contrasting base layer underneath. From simple floral patterns to complex iconography, the use of flashed glass opens up new avenues for glass art, creating an interplay of colour, depth and texture that is difficult to achieve with single-layer glass.

Lamberts has been producing masterpieces in flashed glass for generations. With an unwavering commitment to the highest quality and craftsmanship, Lamberts combines traditional glassmaking techniques with innovative ideas to create stunning and aesthetically pleasing glass products. By maintaining this authentic process of making flashed glass, we believe that Lamberts brings out the vibrant and enchanting nature of the material, making each handcrafted piece a unique and remarkable work of art.

Lamberts offers a wide range of flashed glass in a variety of streaky and colour combinations, which set no limits to creativity in the design and use of the glass. From windows to decorative works of art, the possible uses of flashed glass are manifold. Architects, interior designers and artists around the world have used the glass to embellish their works and add historical charm and artistic flair. There is a marvellous opportunity to see Brian Clarke’s stained glass work – using a variety of Lamberts glass – in the major exhibition at the Newport Street Gallery in London, *Brian Clarke A Great Light*, 9 June-24 September 2023¹, see p. 137).

With its layers of beauty, complexity and functionality, flashed glass is a testament to the incredible versatility of the glass medium. Whether for practical applications or as an aesthetic eye-catcher, flashed glass never fails to inspire and fascinate, bringing light and colour into our lives.

Opaque and opal glass

Then there are the opaque and opal glasses. Opaque glass, as the name suggests, is not transparent and can be produced in a special range of colours. The four recently restored clock faces of the UK's national landmark Big Ben (Elizabeth Tower), at the Houses of Parliament in Westminster, were glazed with approximately 1300 mouth-blown pieces of this type of Lamberts glass.

Opal glass, on the other hand, has a cloudy, translucent appearance. It is milky white (or coloured) and is semi-transparent, letting the light through while obscuring or diffusing the view outside. Beside the coloured and multi-coloured glass there are the different types of mouth-blown window glass.

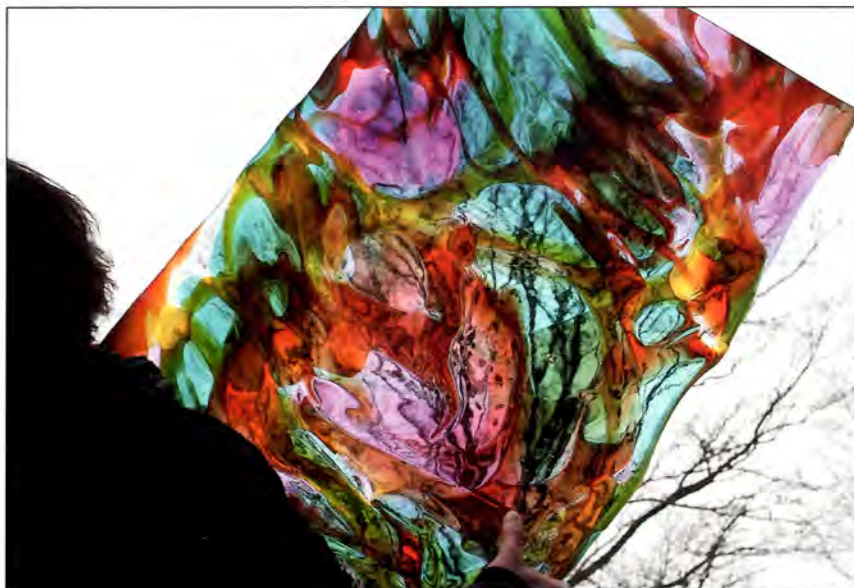
Window glass

The architectural charm of centuries-old buildings lies not only in their grand design and fine ornamentation, but also in the small details that are often overlooked. One such unobtrusive element is the glass used for windows. It is anything but ordinary and offers an impressive insight into the meticulous craftsmanship of times gone by.



FIG. 3:
One of Lamberts' master glass blowers inflating the balloon.

FIG. 4:
Mouth-blown
flashed glass,
mixed glass,
approx.
60 x 90cm.



Let us first discuss the most important aspect of mouth-blown window glass. Each piece is a testament to the skill and experience of the artisan. In contrast to the uniformity and mechanical precision of mass-produced glass, the appeal of this handmade glass lies in its individuality. Small variations, such as the presence of air bubbles or the slight unevenness in thickness, give each sheet a unique character. The glass exhibits a variety of textures and characteristics that cannot be reproduced by machine-made alternatives. Furthermore, these imperfections also contribute to the aesthetic appearance of the building. The unique light-refraction properties of the glass create an exquisite dance of light and shadow within the structure. This phenomenon enhances interior ambience, adding warmth and life to living or working spaces – which is not the case with modern, standardised glass products.

From a historical perspective, the use of mouth-blown window glass, especially for the restoration of historic buildings, contributes to the authenticity of the site. Lamberts, for example, specialises in the production of Restauro® window glass, which replicates the look and feel of historic glass and allows conservators, architects and heritage professionals to preserve the historical accuracy of the building. This type of glass not only preserves the visual integrity of listed buildings, but also helps ensure a connection to our past, allowing us an understanding and appreciation of the skills and knowledge of our ancestors.

These special window glasses are offered in a variety of thicknesses and textures to meet the exact requirements of the building's construction era. Furthermore, these glasses can also be supplied with UV and IR protection integrated into the glass (and not just through a coating or film!) to help protect historic interiors.

In many ways, the importance of mouth-blown, handmade window glass goes far beyond its physical properties. It represents a link to our history, the preservation of traditional craftsmanship and the enrichment of architectural aesthetics. As we look to the future, we must recognise and embrace these benefits it offers. In an increasingly uniform world, a touch of uniqueness, history and artistic 'imperfection' is like a breath of fresh air.

For more information visit <<https://lamberts.de/home>>.