

A fascinating experience is the route to the toilet, which is located at the end of a 20-metre-long corridor lined with two rows of glass plates sporting hundreds of sharp ends.

LIFE BEHIND GLASS

CONSTRUCTED ALMOST ENTIRELY OF LAMINATED GLASS, THE EXPERIMENTAL BUILDING IN THE DUTCH TOWN OF LEERDAM DESIGNED BY KRUUNENBERG VAN DER ERVE ARCHITECTS IS A REMARKABLE STUDY INTO THE SPATIAL AND STRUCTURAL QUALITIES OF A SINGLE MATERIAL. BY BILLY NOLAN. PHOTOGRAPHY BY ARJEN SCHMITZ.

Leerdam, famous for all things glass, has just acquired what must surely be one of the more eye-catching domestic buildings of the 21st century. Set amidst rows of standard suburban dwellings on the outskirts of town is a house with walls entirely of glass. But this is no ordinary feat of look-no-hands architecture and wafer-thin planes seemingly suspended in midair. Quite the contrary, the building reads as a massively solid block of glazing out of which individual rooms have been carved. Indeed, this is precisely what it is and how it was made. The Miesian quality of lightness and transparency so sought after by architects of a modernist persuasion has given way here to a solidity and materiality seldom associated with the use of this material. No less than 80 cubic metres of glass went into the building, enough glazing for around 800 conventional houses.

The extraordinary building is the work of two young Amsterdam architects, Paul van der Erve and Gerard Kruunenberg. After taking first prize in a 1995 competition organised by a local housing association, they joined glass manufacturer Saint-Gobain and embarked on what would become an exhaustive four-year study into the properties of one material – all before on-site work even started. What has undoubtedly been an arduous process from inception to construction is finally nearing its conclusion five years on, as builders move out and occupants move in. The brief specifically asked competition entrants to explore new ways of using glass in construction. But rather than designing a see-through box, the winning architects took the opposite approach and came up with a solid block that stresses the very substance of the material. Rather than producing a pristine glazed object that suggests gravity suspended or material dissolved, they drew attention to the very essence of glass as solid matter.

The award-winning project, appropriately called *Laminata*, arranges literally thousands of identical glass sheets back to back to form an oblong, solid mass of glass, which is then cut lengthways. The resulting two sections are pulled apart to create three zones: a wide central zone flanked by two smaller solid wings of unequal depth. Carved out of these two side wings is a series of ancillary spaces that serve the main rooms arranged along the central nave. But it is not the arrangement of spaces that makes the building so intriguing. The remarkable feature is the use of laminated glass sheets for external and internal walls, which vary from 10 to an incredible 170 centimetres in thickness. Despite their massiveness, the walls still

transmit light, though not the limpid light of single-sheet glazing or the translucent light that filters through frosted or tinted panes. The effect here belongs to an altogether different category of splintered and softened light, fractured into countless strands as it is refracted through glass slivers reaching from floor to ceiling. Moving through the spaces is a stunning experience, as the changing light conditions provoke a multitude of distorted visual sensations. Peering through the exterior wall is like trying to make out shapes through a sheer wall of rain frozen motionless in midstream. The world outside loses its sharp outlines as the predominantly green-blue tones of grass, trees and sky merge to form an abstract colour composition that changes in luminosity and brilliance in response to the intensity of sunlight. Vertical slit windows punched in the perimeter offer sudden glimpses of a landscape in perfect focus, its colours, paradoxically enough, more muted than those visible through the laminated walls. Towards the corners the sheets become successively wider to produce a tapered transition from side to end wall. Left uncut, a single sheet at the very end stretches across the full width of the building's short end. The stark contrast between the wedge-shaped thickness and the large expanse of a single sheet of glazing couldn't be more startling: from the shadowy, murky depths of some submerged world to the crystal-clear daylight pouring through the end membrane. Has glass ever been more transparent? Perhaps the main attraction, though, is the 20-metre-long corridor running the full length of the building. With laminated sheets on both sides and overhead, the corridor is bathed in a soft warm light. Fragmented views through the walls reveal hints of the spaces on the other side. Everything seen through the glazed filters seems to have been shattered into its constituent parts and then reassembled as a cubist composition of verticals. The corridor itself appears to be tunnelling through a giant glacier. *Here more than anywhere else, the space is relentless in its intensity.*

Yet despite the arresting power of such visual effects, the architects were forced to make a number of concessions along the way that reduced the impact of the original design. Most notable was the late addition of a conventional basement level to make the house more marketable. Nonetheless, glass will never seem the same again and most probably will never be used in quite the same way. Apart from the exorbitant costs and lengthy time span involved, the project displays a single-mindedness and perseverance found all too rarely among contemporary designers.



The rather traditional kitchen is a Fremdkörper in the otherwise entirely glass environment.

GLASS WILL NEVER SEEM THE SAME AGAIN AND MOST PROBABLY WILL NEVER BE USED IN QUITE THE SAME WAY





A window emerges at the point where the thick exterior wall, composed of innumerable sheets of glass, gradually tapers to become a single glass pane.

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