

# INDOOR- OUTDOOR INTERFACE

A photograph of a modern building's curved glass facade overlooking a swimming pool and a landscape. The text 'INDOOR-OUTDOOR INTERFACE' is overlaid on the top left. The building's glass reflects the sky and the pool. The pool is in the foreground, and the landscape is visible in the background. The overall scene is bright and modern.



THIS ZEBBIEGH PENTHOUSE, DESIGNED BY STUDJURBAN, IS CLEAN, BOLD AND ECO-CONSCIOUS. BUT IT IS THE U-SHAPED GLAZED RECESS, SURROUNDING THE POOL, AND ITS APERTURES - FULL-HEIGHT PICTURE FRAMES IN THEIR OWN RIGHT - THAT STAND OUT MOST AS THE TRANSITION BETWEEN INTERIOR AND EXTERIOR REACHES NEW LENGTHS.

PHOTOS: RAMON PORTELLI

STARTING off from the setback volume defined by policy provisions, the mass of this penthouse was sculpted to generate more façade planes, allowing for the inclusion of a well-sized outdoor pool on the terrace and more east-facing apertures that make the most of morning sunlight and the beautiful country views.

The sculpted mass and apertures improve the indoor-outdoor interface, creating a seamless transition; in particular, the signature corner aperture that opens up the interiors to the panoramic view and, conversely, draws the surrounding landscape in.

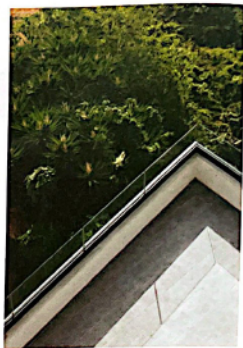
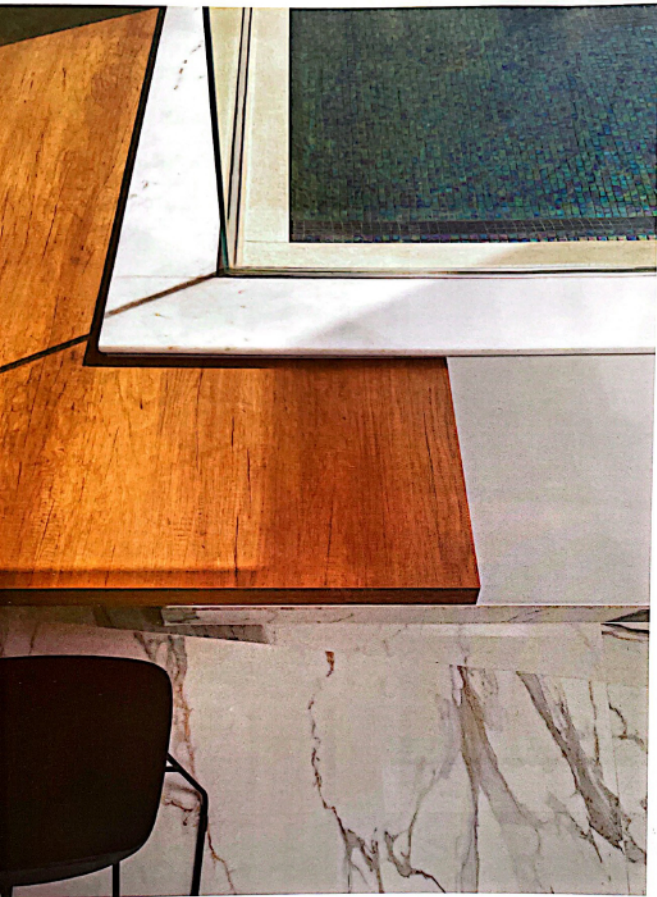
"The challenge was to find a balance between exploiting the magnificent views and controlling the size of the apertures, particularly on the southern face," says Antoine Zammit, founding architect of Studjurban, entrusted with the project.

"Understanding the penthouse's orientation was an important starting point. It allowed us to establish the best positioning and proportion of the apertures for natural light penetration. These progressively increase in size towards the eastern face and culminate in the corner aperture."

The U-shaped recess is entirely glazed and wraps around the pool, creating an interactive space through the sill level over the pool, which acts as a breakfast and working area.

Other architectural details include the introduction of recessed channels along the lengths of the terraces for the outdoor areas to be almost flush with the internal flooring, giving a more seamless indoor-outdoor transition.

An L-shaped open plan evolves around the main corner and the space is defined by clean, bold lines. Its palette of varying whites bounces off the flood of natural light entering the property, and is an



important choice, given most of the penthouse receives indirect light throughout the day.

The chosen materiality that defined the project mood board recalls the natural elements of the surrounding countryside.

The neutral palette gives a better framing of the green landscape and the reflections of the water and glazed mosaics of the outdoor pool.

"Due to the indoor-outdoor transition, the white walls are a canvas that is given colour and life through the exterior views – full-height picture frames in their own right," says Zammit.

Primarily monochrome, the palette is further articulated with black/grey-framed apertures, black metal frames for stools and furniture legs, dark-grey chairs, natural wood finish for the bespoke kitchen and grey-beige curtains.





The kitchen's materiality reflects the larger space, with a palette composed of whites, greys and browns, while black is reserved for details such as trims, metal frames and its graphite fittings.

The overlapping of materials in the bespoke kitchen/breakfast area are brought together in a clean and compatible manner.

"It is hoped the design illustrates how fine details may be achieved with cost-effective materials, without necessarily having very high budgets, as long as their properties are studied well before decisions are taken and implemented," Zammit says.

"This project is as much about interior design as it is an exercise in understanding how the use and integration of individual design elements may serve more than one purpose – providing aesthetic delight while simultaneously being exploited for greater sustainability-related benefits."



## KEEPING IT COOL

Given it was part of a larger residential complex, the penthouse design matured over a period of time, with important environmental principles considered when planning out the internal and external spaces of the project.

From the inception of the entire residential block, environmental issues and performance were prime considerations, says the urban designer.

The issue with penthouses is that they are generally highly exposed, often experiencing full sun exposure at different times of day, Zammit points out.

Although this may be exploited in terms of natural light penetration, there is also a risk of significant heat gains in summer and, conversely, losses in winter.

Both insulation and high-performance double-glazing, using solar glass, lead to more temperate internal spaces, reducing heat gains in summer and losses in winter.

As the southern exposed face starts receiving the late-morning and afternoon sun and the internal spaces start heating up, the warmer air escapes through the apertures surrounding the well-sized internal yard.

Due to temperature differences, the air in the yard is cooler, and being denser, it displaces the lighter, warmer air inside, creating a cooler environment in summer.

The resulting air movement and circulation means the internal spaces are naturally well ventilated.

Mechanised internal roller blinds in the glazed areas mean the degree of solar access into the penthouse can be further customised.

Studjurban also introduced a "simple but innovative approach" – a significant energy-saving measure known as passive evaporative cooling, which takes advantage of the presence of the outdoor pool.

On hot summer afternoons, air currents form due to the temperature difference between the shaded eastern and the exposed southern faces, Zammit explains.

As water from the outdoor pool evaporates, the air is naturally cooled and drawn inwards thanks to its circulation resulting from convection.

"This technique has been used in hotter climates for centuries and is based on simple environmental principles that result in effective lowering of internal air temperatures during the summer months." ■