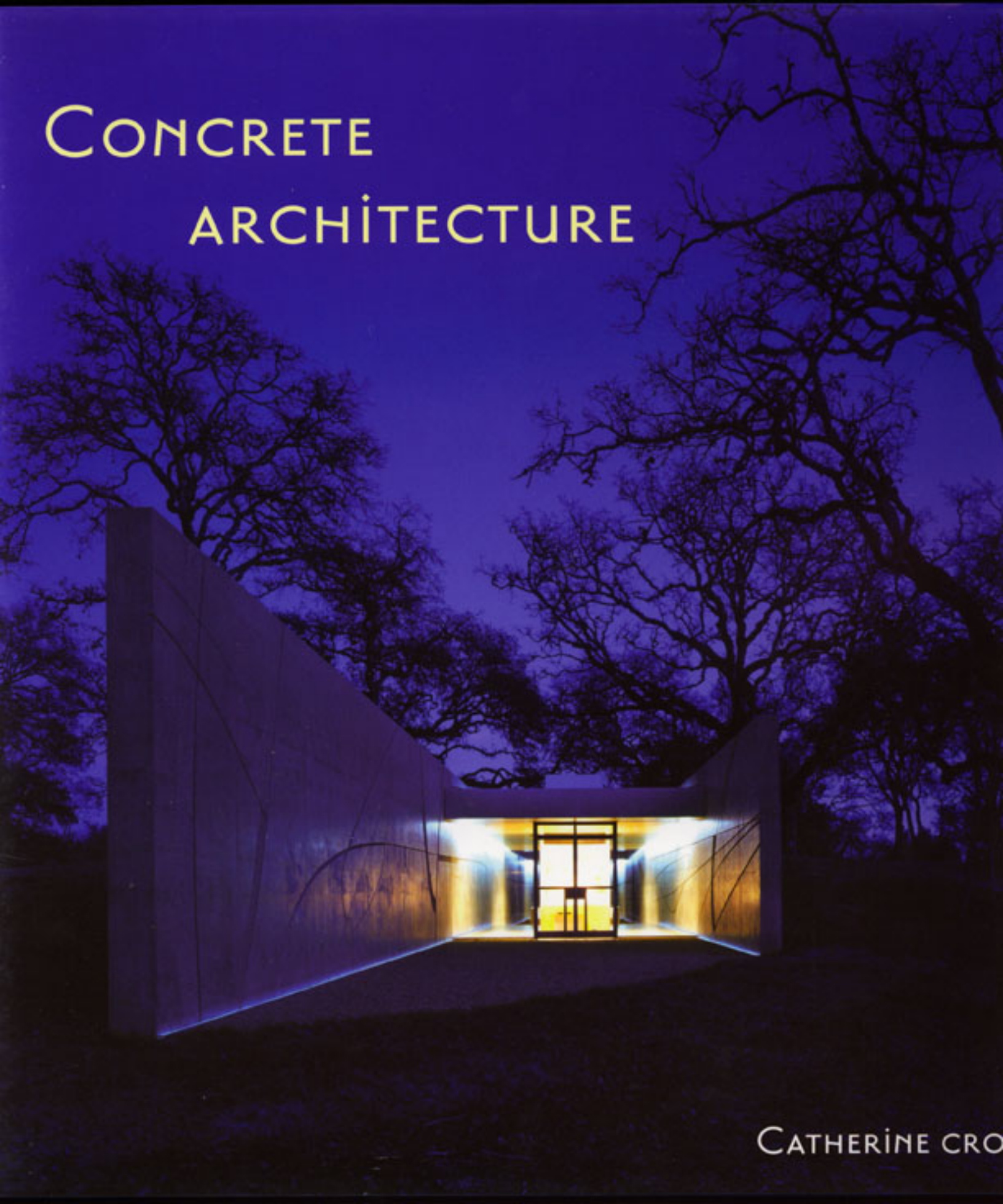


CONCRETE ARCHITECTURE



CATHERINE CRO

Tilt-Up Slab House

Venice, California, USA, 2001
Syndesis, Inc.



The front elevation. The concrete panels were individually designed to allow for window openings and to articulate the different elements of the façade.

On the Syndesis, Inc. website, principal David Hertz records the building of the Tilt-Up Slab House in a 'construction timeline' – a series of photographs showing what happened not over weeks or months, but in a single day from seven o'clock in the morning onwards. The exterior walls of the house are formed of 14 white concrete panels, each 15 centimetres (6 inches) thick, lined up and facing each other along the longitudinal edges of the site. Eleven of these were poured off-site and winched in, but the tight surroundings of the Venice Beach corner lot meant that it was easier for three of them to be cast in situ, each using a different perimeter framework on the same ground-slab casting surface. They were then raised into a vertical position and were all in place by five o'clock that afternoon.

The tilt-up process is popular in industrial building in the USA because it requires little formwork or skill and minimal handling of large components. It is also inexpensive. The panels of this house, however, are not just rudimentary rectangles, but vary in width from 3.5 to 4.5 metres (12 to 15 feet) and are individually designed to incorporate window openings that articulate the façade and emphasize the panel construction. One of the building's elevations is extremely visible since it stands right on the boundary of the 10 x 24 metre (32 x 80 foot) lot. Although the house is not a kit, its elements read as a crisp horizontal jigsaw, or a row of individual letters, which have been brought together to form a single word, but which equally might be reordered to say something else.

The concrete is left exposed on both the exterior and the interior, but the latter is burnished. White cement was used to create a light colour, and the surface of the concrete casting slab was steel-trowelled to provide a smooth surface. Some cracks later developed in the casting surface,

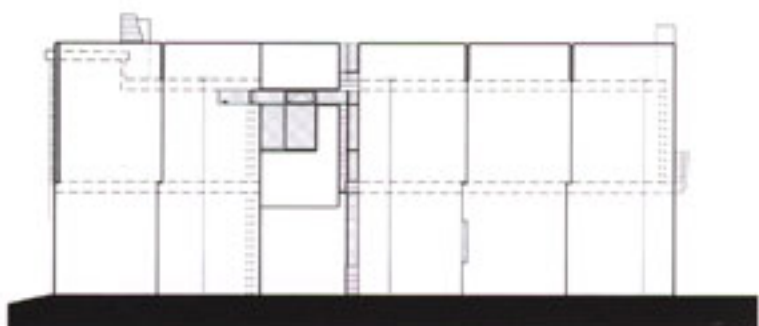
and, although these were filled, they remain visible on the finished panels. Each panel is suspended from a steel moment frame, designed to take lateral loads. Two shorter panels seem to float over the courtyard and garage entrances without lintels. All doors and windows are custom-made; aluminium storefront sections and the doors pivot. There are no internal doors between the ground-floor rooms, and full-height openings create a sequence of spaces that are loosely articulated, like the panels. Apart from the clearly expressed chimney stack, the end wall is almost completely glazed. First-floor balconies are placed off the master bedroom and the stair

The accommodation brief was complex since clients were a professional couple living with two teenaged children and a permanent guest grandparent. As well as a home, the couple wanted separate studies; their budget was only \$270,000. The solution was to create two structures: a rear garage building with two bedrooms and a study above it, separated by a 4.5 metre (15 foot) internal courtyard from a larger block, housing a kitchen, a living/dining room and a study on the ground floor, and two more bedrooms, including the master bedroom on the first floor. A bridge across the courtyard connects the two parts.

Light from a large skylight and an atrium floor on both floors of the front block, so that the need for openings directly onto the adjacent alleyway is minimized. Apart from a tiny slot that brings light into the kitchen, there are no ground-floor windows on the alleyway elevation. The ground-floor study has its own door onto the courtyard but also borrows light through a translucent panel from the skylight.

Right
Natural light and ventilation
are allowed to enter the house
through the almost entirely
glazed front façade.

Far right
Detail of the garage entrance on
the east elevation.



Clockwise from top left: south,
west, east and north elevations.



All but three of the 15 centimetre (6 inch) thick tilt-up white concrete panels were cast off site, and all were erected in a day. The images show the floor being lowered into place in the morning (left) and one of the shot walls being positioned (right) at midday.



From left ground- and first-floor plans: 1. living area, 2. dining area, 3. kitchen, 4. study, 5. courtyard, 6. garage, 7. master bedroom, 8. bedroom, 9. bridge

Hertz worked for John Lautner and Frank Gehry before starting his own practice. He is a passionate advocate of concrete, saying, 'I find it to be an amazing material, unlimited in texture and shape.' He set up the separate company, Synconcrete, Inc., to market a material that he invented, called Synconcrete, and his own work is a testament to his conviction, with all the basins, tubs, showers and fireplaces made out of the material. Robust concrete finishes were added so that 'the kids can come in off the street and skateboard', while concrete floors are laid out on a slight slope so 'we can hose it out'.

At the Up Slab House, Hertz feels he has created an 'impure' structure by mixing concrete with wood. He speculates that 'the hybrid condition created creates an interesting possibility ... It moves forward from the modernist idea of structure with space. It is perhaps the way traditional buildings mixed technology and materials.'



The concrete walls of the interiors are hand-sanded, sealed and waxed, and the floors are burnished. The sound-proofing and thermal properties of the concrete were an added bonus to the clients, who both work from home.



The skylight and atrium below it allow light to penetrate both floors of the front block.