Concrete Architecture

Catherine Crow
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 remained 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 the clients were a professional couple living with two teenaged children and a permanent guest – a 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 at 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 though 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 short walls being positioned (right) at midday.

Hertz worked for John Lautner and Frank before starting his own practice. He is a
late advocate of concrete, saying, 'I find
an amazing material, unlimited in
texture and shape.' He set up the separate
endesis, Inc., to market a material that he
invented, called Syndecrete, and his own
is a testament to his conviction, with all
baths, basins, tubs, showers and fireplaces
out of the material. Robust concrete finishes
id so that 'the kids can come in off the
nd skateboard', while concrete floors
st on a slight slope so 'we can hose it out'.

Sit-Up Slab House, Hertz feels he has
an 'impure' structure by mixing concrete
el. He speculates that 'the hybrid condition
creates an interesting possibility …
oves forward from the modernist idea
of structure with space. It is perhaps
o the way traditional buildings mixed
ogy and materials.'