Luck of the Irish
O'Donnell & Tuomey cares for this Dublin community and it shows in the practice's new Sean O'Casey Centre

Turkish delight
From Taut to Tabanlioglu, Dennis Sharp examines the history of modern architecture in Turkey

Outer beauty
Projects in Brighton and the Netherlands reveal precast concrete cladding is more than just a pretty face
The ripple effect comes to Dublin

Quirky detailing and a clever use of poured concrete give this new community centre a dramatic impact

By Graham Briley

Set in a neighbourhood of two-stores brick terraced houses, the corrugated concrete walls and circular windows of the Sean O’Casey Community Centre make a distinctive new landmark in the Dublin district of East Wall. The building houses four main facilities – a theatre, day care facilities for the elderly, a 211-seat theatre and a sports hall – all sharing a single entrance.

Irish practice O’Donnell & Tuomey won the commission in a competitive interview in 2005. The different elements of the brief are arranged around four courtyards that provide the necessary separation between activities while also allowing public visual links between them. “We were concerned to maintain the integrity and make it a social building,” says John Tuomey.

A five-storey tower rises above the main east of the building containing classrooms and administration offices. The community groups that make up the whole body occupied four of the building, while the upper floor is Poole numbers required. As a cheaper alternative, corrugated galvanized steel sheets from the local building’s yard were used, fixed to the inside of standard plywood shutters. With a lot of practice these were found to give excellent results and were easy to adapt on-site. The tricky thing with the circular window was to seal all the edges. Adjacent sheets were flapped and corrugations and compressible seals were used at the edges.

Achieving the carefully proportioned elevation pattern involved close coordination of the different materials received by the architects and structural engineer Casey O’Donnell. Locally the paper was needed to be small to avoid shrinkage cracking without the need for excessive reinforcement. The walls and parapets were therefore cast in full-depth sections so that the only horizontal joint is at the bottom between the plinths and wall. Proprietary shutter bars were cast into the walls to support the roof and intermediate floors of the tower.

Day joints were difficult to form neatly in the corrugated formwork so straight sections were introduced that could be rubbed down. The finished concrete was very smooth. These recesses introduced another layer of proportion to the façades and give the building a more crafted feel. Internally the same attention was given to the exposed concrete soffits. The joins were all set out and the surface was rubbed by hand once the phenolic-faced fibreboard was removed.

Different layouts within the centre have different linkages: the sports hall is faced with O’Donnell’s theatre with birch plywood and the...
O'Donell & Tuomey
Detail

Sean O' Casey Community Centre

Corrugated concrete walls with circular cut-out windows define the community centre's outer shell.

The load-bearing walls were cast in situ using corrugated galvanized steel sheets screwed to the top of the formwork. Circular walls were formed by fixing plywood strips to the formwork. The window frames are pre-cast units.

To control shrinkage cracks, the walls were poured in a number of sections so each section would have a few days to dry out before the next section was poured. Day joints are concealed in flat strips that also serve to break the walls up into corrugated panels.

The model is also cast in situ concrete with the smooth finish exposed on its underside. The concrete walls and steel supports are built on reinforced concrete strip foundations which bear on compacted stone columns.

Internally, the building is arranged around courtyards surrounded by glass screens. Around the courtyards the roofs supported on steel columns cantilever directly into the roof slab. The columns are at close enough centres that the concrete can form a beam between them.

Cut-away section through dining area and courtyard

1. Foundations
2. Ground floor
3. External walls
4. Concrete frame
5. Roof
6. Steel support
7. Reinforcement
8. Shear membrane
9. Rainwater system
10. Rainwater diverter

Left: Circuclar windows are cut out of the in the outer concrete walls.

For a video tour of the Sean O' Casey Centre, visit bdon.ie.co.uk