



Case Study

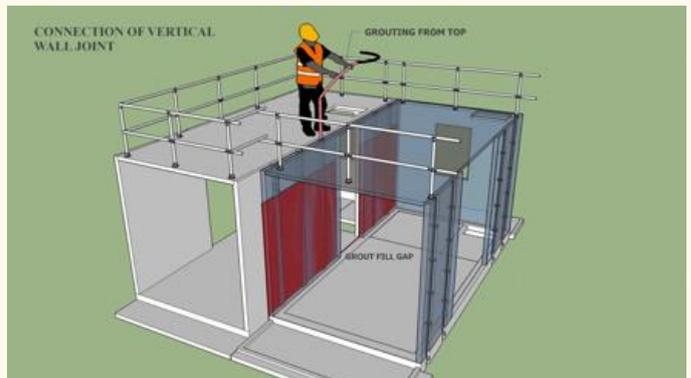
# The Clement Canopy

The Clement Canopy is one of the tallest concrete buildings constructed using Prefabricated Prefinished Volumetric Construction (PPVC). Located along Clementi Avenue 1, this residential condominium comprises 505 units across two 40-storey towers, along with a multi-storey carpark and one basement level. The development spans a Gross Floor Area of 50,200 m<sup>2</sup> and is surrounded by schools and housing blocks.

While the basement, carpark, and first floor were built using conventional methods, Levels 2 to 40 were constructed entirely with PPVC. The project used 1,866 fully enclosed, six-sided concrete modules—each weighing between 26 and 31 tons. These were lifted into place using two 48-ton tower cranes, with the team installing 10 to 12 modules a day and completing a full floor every 7 days.



Tower Crane Hoisting of PPVC module



Grouting in between PPVC Modules

The use of PPVC at The Clement Canopy offered valuable insights into design, production, and on-site coordination. One of the key challenges during the design stage was confirming drawings and materials early to keep the production cycle smooth. Another early decision involved the placement of the heavy-duty tower crane. Its location affected the crane's foundation and connection to the main tower, which in turn impacted the overall structural design. The modules had to be strengthened to handle the added tie-back loads.



Fit-out Yard Operations



Completed Residential Units

Although most architectural works were completed in a controlled factory setting—leading to better workmanship—strict control on site was still essential. Careful handling and discipline were needed to avoid damage to the finished modules during installation. Overall, adopting PPVC helped all project stakeholders achieve faster construction, better workmanship, a safer site, and fewer disruptions to nearby schools.

## Project Team

 <b>ROLE</b>	 <b>ORGANISATION</b>
Owner	United Venture Development (Clementi) Pte Ltd
Architect	ADDP Architects LLP
Structural Engineer	TW-Asia Consultants Pte Ltd
M&E Engineer	J Roger Preston (s) Pte Ltd
Main Contractor and PPVC Supplier	Dragages Singapore Pte Ltd