

Structural Methods
 Shear wall construction

The lateral and gravity load-resisting system consists of reinforced concrete walls and reinforced concrete slabs. Shear walls are the main vertical structural elements with a dual role of resisting both the gravity and lateral loads. Wall thickness varies from 140 mm to 500 mm, depending on the number of stories, building age, and thermal insulation requirements. In general, these walls are continuous throughout the building height; However, some walls are discontinued at the street front or basement level to allow for commercial or parking spaces. Usually the wall layout is symmetrical with respect to at least one axis of symmetry in the plan (Figure 1). Floor slabs are either cast-in-situ flat slabs, or, less often, precast hollow-core slabs.

Reinforcement requirements are based on building code requirements specific for each country. In general, the wall reinforcement consists of two layers of distributed reinforcement (horizontal and vertical) throughout the wall length. In addition, vertical reinforcement bars are provided close to the door and window openings, as well as at the wall end zones (also known as boundary elements or barbell).

Construction Methods

The key design feature of The Troika are the sheer walls. It uses a new construction method for this building, a technique that is not commonly used in Malaysia. The construction uses pre-cast components for the sheer walls, combined with a specific sequence of constructing the building, presented immense challenges which had to be tackled before construction could begin. The 3 towers have 10, 9 and 6 of sheer walls respectively.

The Troika
 Kuala Lumpur, Malaysia

Type	Height
Residential	Tower 1: 160 m (520 ft)
	Tower 2 177 m (581 ft)
	Tower 3 204.2 m (670 ft)
Location	
Jalan Binjai	
Kuala Lumpur, Malaysia	
Construction started	Floor count
2006	50
Completed	Architect
2010	Foster and Partners
Cost	Developer
RM840 million	Bandar Raya Developments Berhad



Shear wall Liftcore



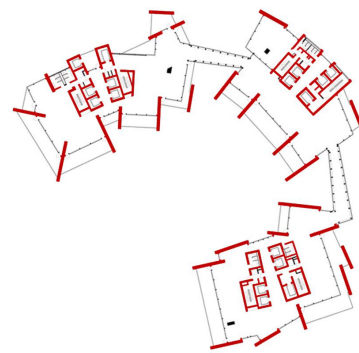
The casting height is control by the precast arrangement ranging from 1 precast to a maximum of 3 precast at one time. The average height of a precast panel is 1.137m.



Installation of the precast panel



Perfect fare faced concrete through precast panels.



■ Shear Wall

