

Case study

388 Lonsdale Street Melbourne

September 2018



Truecore[®]

TRUECORE[®] steel gives new life to an old building





A light-gauge framing system has breathed new life into an old 12-storey building.

Project Goal:

- Add eight storeys to a 50 year old, 12 storey building.

Key highlights/challenges:

- Existing structure's ability to take additional load.
- The age of the building meant that the grid could have been anywhere between 10mm to 30mm off, so the new steel structure had to accurately meet the existing columns.
- There was no external access to build the walls and then clad them: all the new levels would be built without scaffolding.

Key benefits:

- Cost, time and safety – due to uniformity of manufactured frames, ease of handling and reduced working from heights requirements.

Sources:

- Carlos Cagliero, Senior project manager, Verve Construction (CC)
- Peter Blythe, Managing director, Dynamic Steel Frame (PB)
- Roger Schmidt, Project architect, Urban Design Architects (RS)

Key elements:

Highly modularised floor system comprising a 2.7 metre wide by 5.5 metre long fully finished floor cassette which is framed by 1mm gauge lightweight TRUECORE® steel. Each flooring cassette has four lifting points which can be craned into position and dropped on top of the structural steel of the portal frame which is

composed mostly of 200mm universal beams. The cassette fixes in with screws, then it's ready to walk on. (PB)

Wall façades comprising a system of interlocking panels made from COLORBOND® steel in the colour Monument® and COLORBOND® Metallic steel in the colours Celestian® and Rhea®, that finish a frame of insulation and plasterboard, internally. Built off-site, these were simply lifted onto the building by crane, where they were fixed from inside into wall frames made from 1mm gauge lightweight framing made from TRUECORE® steel. (PB)

Wall frames that allow for 10 metre-long by three metre-tall panels and no heavy structural steel was necessary to meet the walls' engineering requirements. (PB)

3D modelling to ensure the system would work, and allow for a number of mechanical and plumbing services. Also to ensure appropriate joist-deflection requirements, to prevent noise transmission between floors. (CC)

Summing up the project. Carlos Cagliero, Senior project manager for builders Verve Construction said: "It's very rare. We're starting at 12 storeys and going up another eight and that creates a lot of logistics to deal with. We worked with Peter and his engineers at Dynamic Steel Frame to push the framing system to its full capabilities and maximise our apartment space and building value."

Peter Blythe, managing director of Dynamic Steel Frame said: "It would be difficult to achieve the number of floors with alternative materials such as concrete due to strength-to-weight ratios. Due to its weight above the existing building if we were to use concrete we would have only been able to go up one or two levels. With our lightweight steel framing made from BlueScope's TRUECORE® steel the client was able to go far higher than that. They are definitely very happy about it."

Project: 388 Lonsdale Street

Location: Melbourne, Victoria

Client: Aurumstone

Architect: Urban Design Architects

Project team: Roger Schmidt, Martyn Tribe, Rob Gordon

Principal steel products:

Framing: 1mm gauge lightweight framing made from TRUECORE® steel.

Structural steel: 200mm UBs.

Walling made from COLORBOND® steel in the colour Monument® and COLORBOND® Metallic steel in the colours Celestian® and Rhea®

Developer: Aurumstone

Builder: Verve Construction

Steel fabricator: Dynamic Steel Frame

Structural engineer: Irwin Consult

truecore.com.au
To learn more about TRUECORE® steel

1800 738 576
For more information call Steel Direct

