SUPPORTING SOME OF THE WORLD’S TALLEST BUILDINGS

Tall buildings present special challenges for designers, builders and contractors such as internal wind pressures which call for careful consideration and design experience at the planning stage. Fire and acoustic requirements for skyscrapers can also be more demanding than solutions for low-rise developments.

USG Boral has assisted with building design solutions for some of the world’s most iconic skyscrapers. These have been based on a wide range of materials, from panelised lightweight wall systems such as IntRwall®, innovative SHEETROCK® plasterboard and compounds, as well as integrated and suspended acoustic ceiling systems.

Our Shaftwall™ System provides fire protection of up to two hours for elevator shafts, vertical ducts and other applications where installation is only possible from one side. Of lightweight construction and high acoustic performance, Shaftwall™ is also certified by Good Environmental Choice Australia (GECA).

Shaftwall™ System is installed in the world’s tallest twin towers, Kuala Lumpur’s Petronas Towers, as well as New York’s One World Trade Centre and the ‘megatall’ Burj Khalifa in Dubai. It also helped the architects of the Shanghai Centre Tower achieve their design vision of creating one of the world’s ‘greenest’ buildings.

ICONIC AUSTRALIAN SKYSCRAPERS

As a world leading building materials manufacturer and distributor, USG Boral brings product expertise and engineering experience to high-rise developments nearer to home. In fact, we developed a unique patented wall system for Melbourne’s (former) tallest building, the Eureka Tower, using panelised components, aptly naming the system EurekaWall®.

The fire- and acoustic-rated inter-tenancy walls for the 270-metre Brisbane Skytower were also designed with the help of USG Boral’s Engineering Team. A major challenge for the plastering contractor was how to design economical systems for internal walls and ceilings, while factoring high internal wind pressure into the equation.

Eureka Tower, Australia
IntRwall® System, Shaftliner™

Brisbane Skytower, Australia
Inter-tenancy Wall Systems, SHEETROCK® Plasterboard

Shanghai Centre Tower, China
Shaftwall™ System

Petronas Towers, Malaysia
Shaftwall™ System

Marina Bay Sands, Singapore
Durock®, Shaftwall™ System, Fiberock®

Bitexco Tower, Vietnam
Shaftwall™ System, Suspended Ceiling

Taipei 101 Tower, Taiwan
Suspended Ceiling, Imperial® Plaster

Burj Khalifa, Dubai
Durock®, Shaftwall™ System, SHEETROCK® Compounds

One World Trade Centre, USA
Shaftwall™ System
USG Boral experts supported the contractor by pushing the performance limits of products and systems through rigorous testing and providing the engineering expertise to specify fire- and acoustic-rated systems complying with the Building Code of Australia. This also helped drive efficiencies in products and in the installation of plasterboard systems for the Brisbane Skytower project.

WORKING SAFELY & EFFICIENTLY
USG Boral’s SHEETROCK® wall and ceiling board is increasingly useful to high rise developments. Fifteen per cent lighter than our standard board, SHEETROCK® can reduce point loads and thereby help to minimise crane lifts on multi-storey developments – optimising delivery, storage and installation efficiency. Importantly, SHEETROCK®’s Sag-Defying Strength™ also makes it easier to handle. These handling and weight advantages help reduce ‘wear and tear’ on plastering contractors, especially on multi-storey developments involving repeated installation of ceilings.

As well as Brisbane Skytower, SHEETROCK® was also used for optimum efficiency on Grocon’s 34-level office tower at 480 Queen Street, Brisbane. Danny Simpson, Managing Director of plastering subcontractor NAC, said, “Our boys like working with USG Boral SHEETROCK®. Fifteen per cent lighter doesn’t sound like much, but it makes a big difference when they are working overhead installing ceilings as they are on this project. We also find that SHEETROCK® board is more rigid than regular plasterboard and we have less breakages, which increases our productivity.”

APPLIED EXPERIENCE
USG Boral goes beyond product innovation to find ways to help architects and design professionals work smarter, achieve more and design better. Drawing on local and global experience of the design and construction of iconic skyscrapers, our architectural and engineering experts can help with timely and effective design solutions to high-rise challenges.