

Queen Victoria Markets, Melbourne, VIC



Refurbishment of historic roofing structures often present some peculiar and demanding challenges; however, rarely so much as that experienced during the redevelopment of the historic listed Queen Victoria Markets (QVM).

Covering 17 acres and holding the title of the largest open air market in the Southern Hemisphere, the historic listed QVM market sheds refurbishment presented some interesting challenges for the team. With staff and visitor safety being paramount, the refurbishment team needed to consider how to minimise the disruption to trade during construction in addition to achieving current design code compliance all while maintaining the historic aspects.

Requirements

This is where the expert assistance of Delta Panels was sought. Following much consultation, an insulated panel consisting of a traditional historic corrugated profile on both the lower and upper surfaces was chosen to meet both the aesthetics and strength requirements. Double sided corrugated profile insulated panels provide increased panel strength, reduced deflection and a strongly desired traditional architectural appearance. This panel configuration is however difficult to produce correctly with consistent results, thus are not offering by the majority of panel manufacturers.

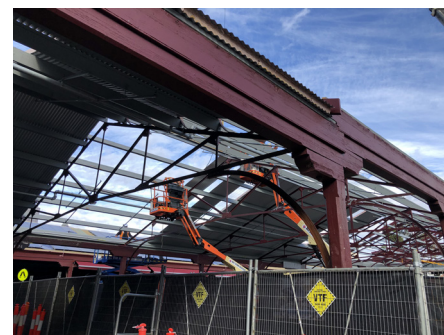
Approach

The insulated core material was a priority focus for the team, not least of all to ensure that both fire and structural performance was achieved in compliance to the project scope and National Construction Code. A unique proprietary thermosetting phenolic composite (TPC) developed by Delta Panels was selected to provide an increased foam core strength and enhanced insulation values with a Group One Rating for fire hazard properties. The TPC foam core by Delta Panels provides double the density compared to conventional styrene foams and compared to urethane foams offers increased economies and reduced smoke toxicity.

The project engineering team established rigorous structural parameters for the insulated roof panel. The DeltaCorroCorro™ panels were thoroughly tested to ensure complete compliance with project specific requirements. Innovative product development experience and an extensive in-house engineering capability enabled Delta Panels to undertake project specific testing to ensure that the stringent requirements of panel deflection, loading performance and fire properties were satisfied.

While various traditional systems consisting of single skin sheeting

with bulk insulation in addition to more modern alternative built-up roofing solutions were evaluated, the DeltaCorroCorro™ panel solution enabled the delivery of a single component roof solution to site.



DeltaCorroCorro™ insulated panel with Group One rated Thermosetting Phenolic Core provides for rapid installation

Benefits

Having reduced the multiple materials and installation steps involved with a traditional roof process to a single integrated panel solution ensured speed and integrity of installation, safety during construction, elimination of thermal bridging, structural integrity and service life performance with the heritage requirements well satisfied.

Having been one of the early pioneers of double faced corrugated insulated panels with many decades of successfully delivering to projects across Australia, Delta Panels was well equipped to meet both the roof material requirements and time critical project schedule. Located in Brisbane and having a daily production capacity exceeding 1000 square meters, production and delivery of materials to the project was completed faultlessly without delay.

Client: City of Melbourne, Major Capital Works

Principal Contractor: McCorkell Constructions

Architect: NH Architecture

Engineer: Mott MacDonald

Roofing Contractor: Barden-Steeldeck Industries

Photography: NH Architecture



Modern composite roof panel blends seamlessly with historical structure



0428p DELTA INSULATED PANEL roofing systems 0437p DELTA INSULATED PANEL cladding systems
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