

Sydney International Broadcasting Centre



photo courtesy of Olympic Co-ordination Authority

The Steel Solutions

The architectural team asked for a recommendation on what should replace the corrugated asbestos-cement roof. The solution resulted in a successful recycling of the existing structure, with the addition of steel wall and roof cladding. Technical support was provided to the architect and engineer on availability and size of members for the wall and roof cladding.

The temporary nature of the building and its use of demountable elements meant steel was preferred to the originally specified concrete. The use of steel, for example, meant exits and stairs could be moved around internally both in setting up the broadcasting centre for the Olympics and afterwards as part of its reconversion back to a warehouse.

Architect Adrian Light of Bligh Voller Nield said working with steel solved many of the challenges provided by the huge scale and technical issues associated with providing specific services to many different television stations and media for such a short period of time. "We could simply unbolt lightweight steel structures that needed to be moved - which increased the speed of construction - and we could also punch holes through the exterior cladding made from Colorbond steel as needed. These adaptable and time-saving construction features translated into cost savings," Mr Light said. "The utilitarian, machine-like feel appropriate for this temporary building was achieved using raw steel products such as ZINCALUME® steel."



photo courtesy of Olympic Co-ordination Authority

Recycled steel purlins and twenty-first century steel cladding provided an environmentally-friendly solution for accommodating the International Broadcast Centre for the Sydney 2000 Olympic Games.



Facts and Features

■ An old Grace Brothers warehouse site was refurbished to accommodate the International Broadcast Centre which accommodated 12,000 people for two weeks during the Games. The temporary nature of the building's services - combined with the technical requirements of media including TV stations from around the world - called for a functional, cost-effective solution which could be recycled and reused. That solution was steel. Architect Adrian Light of Bligh Voller Nield said the existing warehouse asbestos-cement roofs first had to be replaced for health, safety and structural reasons. The existing galvanised purlins were reused after testing their capacities. Due to the heaviness of the previous asbestos cement roofing, these purlins had been set at small intervals, easing selection of an alternative cladding. Structural engineer Damon Chudleigh said fitting out an existing steel portal frame structure meant steel products were selected which could span the existing purlins in the roof

and girt spanning for the walls.

Seventy thousand square metres of BHP ZINCALUME® zinc/aluminum alloy-coated steel was used because its spanning capacity suited the existing purlin spacings. The building was clad externally using BHP COLORBOND® prepainted steel in Off White to match its existing skin. This cladding meant service hatches could easily be punched through the exterior where required for broadcasting purposes.

The warehouse was fitted with studios internally. All the services were placed outside, penetrating the exterior cladding where required. These services included toilets, air conditioning units, generators, chillers for the air-conditioning, stand-by generators and communications cabling. Steel scaffolding from the adjacent Stadium Australia construction site was reused in the broadcasting centre to carry applications which included nine kilometres of internal cabling.

Project Details

Client Olympic Co-ordination Authority

Stage 1 Architecture Bligh Voller Nield

Stage 2 Architecture Bligh Voller Nield, Byron Harford & Associates, Dickson Rothschild Architects

p (02) 9252 1222 p Adrian Light 0409 592 593

Structural Engineer Taylor Thomson Whitting p (02) 9439 7288

Builder Walter Construction Group p (02) 9391 0100

Roofing Contractor (Cladding) Axis Metal Roofing p (02) 9756 1477

Size 70, 000 square metres

Cost \$180 million (including broadcasting equipment)

Featured Steel Products

Exterior Roof Cladding BHP ZINCALUME® zinc/aluminium alloy-coated steel rollformed into LYSAGHT TRIMDEK®.

Roof purlins Existing galvanised steel purlins reused.

Wall Cladding BHP COLORBOND® prepainted steel in Off White.

Figures

■ The IBC operated 24 hours a day during the Games and accommodated more than 10,000 people. Host broadcaster the Sydney Olympic Broadcasting Organisation (SOBO) controlled, monitored and distributed signals from all Olympic venues to the 190 organisations holding television and radio rights. Temporary infrastructure included installation of air conditioning, the reticulation of a high voltage power supply, hydraulic services and venue management facilities.

