

• NATIONAL • PRECASTER

NATIONAL PRECAST CONCRETE ASSOCIATION AUSTRALIA

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INDUSTRIAL Wall Panels

Precast concrete wall panels dominate the Australian construction market as architects and designers successfully apply the method for industrial cladding in factories, warehouses and shopping centres throughout the country.

REGIONAL DIFFERENCES

Across the industrial building market the use of precast wall panels benefits the builder and owner in terms of economy, durability and aesthetics, but there are some differences in practice and availability from one State to another.

Victoria

In Victoria, by far the most common cladding is flat reinforced precast panels, which are left off-form or are treated with various applied finishes to architects' requirements and customer budget



Warehouse in Hallam, Victoria featuring use of precast colonnades, spandrels, and cladding panels coated with a textured paint finish

Factory-cast painted wall panels in industrial units, Lurnea, NSW

restraints. Architectural features such as shape and grooves are common within the flat panel configuration, however more complicated shapes such as curves and almost anything that ones imagination desires, may be possible.

Queensland, WA and Tasmania

In these States the same products as in Victoria are offered, but these have yet to achieve the same market penetration as in the larger States.

NSW and ACT

Prestressed hollowcore cladding has been used extensively in NSW for over 25 years and has shared the market with on-site construction. In recent years flat reinforced panels, as are used in Victoria, have taken an increasing share of the market as builders move further towards off-site prefabrication.

INDUSTRIALISATION OF THE BUILDING PROCESS

The standardisation of wall panels has allowed the precast industry to offer a very fast and economical service. Steel reinforced panels are produced in standard thicknesses on permanent casting beds. Hollowcore panels are produced by slipform technology on long line beds and sawn to size. Both techniques allow for high quality, efficient off-site manufacture where the quality and program are better controlled.

ARCHITECTURAL FEATURES

Hollowcore prestressed panels can be painted on site or can be cast with an integral exposed aggregate finish. Reinforced concrete panels are usually painted. Both systems allow for incorporation of windows and doors and can accommodate gable ends and other features. Reinforced concrete panels have more flexibility for casting in of features such as dummy joints, grooves, irregular penetrations and shapes within the plane of the panels.

STRUCTURAL CONSIDERATIONS

Fire ratings of up to 4 hours are available from precast concrete. All precast units can be attached to a portal frame, but when the roof span is less than about 25 metres, steel columns are often dispensed with and the precast panels made load-bearing. Strip footings are required for vertical panels but horizontal panels can span between column pads.



Over 2000 m² of fire-rated exposed aggregate hollowcore panels clad this warehouse for Southcorp at Arndell Park, NSW. A banding effect was achieved by using two colours of exposed aggregate.

SITE REQUIREMENTS

Precasting imposes a stricter discipline upon the construction process than applies to insitu construction. For precast to work, there needs to be clear access to the site for trucks and cranes and good coordination with other trades. The builder must ensure that all information required for shop drawings is available in good time.

OTHER WALL PANELS

The wall panels considered here represent high quality low cost solutions to typical industrial construction needs. NPCAA members can also supply sophisticated architectural finishes and configurations as required for any type of low or high-rise buildings. ■