

Capral Aluminium

Project Report - Queensland

During September 2003, Watpac Australia Pty Ltd awarded Holcim a contract to supply approximately 25,000m³ of concrete for their Capral Aluminium Extrusion Facility in Bundamba. The project involved the following construction:

- 60,000 m² production building
- 10,000 m² hub building
- 2,000 m² administration building
- hardstand and associated landscaping.

The production building is a propped portal-framed structural steel building over 13m high. The building houses the anodising, powder-coating, extrusion, dispatch and warehouse functions.



Key design criteria

As the Capral Aluminium project required large slabs on the ground it was crucial to design the slabs to minimise shrinkage and joint movements. Another important design criterion was to maximise durability and floor flatness to minimise damage by forklifts.



Specification requirements

The concrete specified for the project was 32MPa with a maximum aggregate size of 20mm and a shrinkage requirement of 650µm.



Concrete used

A total of 25,000m³ of 32MPa concrete having a 20mm maximum size aggregate was used. A drying shrinkage specification of 650µm was nominated by the engineering designer.

Solutions developed

The very flat floor tolerances required were achieved using laser guided screeding technology and ride on trowelling machines. In addition, this project formed part of a broader Holcim initiative to develop knowledge on the shrinkage effects in large concrete slabs, done in conjunction with the University of Queensland.

Results achieved

Watpac completed the project ahead of schedule and were delighted with Holcim's performance and technical knowledge.

Location	Bundamba, Qld
Client	Capral Aluminium
Contractor	Watpac Australia
Engineer	Wade Consulting
Products supplied	25,000m ³ of concrete including S32/20mm 650 microstrain concrete
Commencement	October 2003
Completion	December 2004