

PRECAST PANEL COLLAPSES IN STORAGE RACK AND INJURES WORKER

Worksafe Victoria - Construction & Utilities Incident Report

Category:	Precast and tilt-up concrete panels
Sub-category:	Concrete panel racking systems
Relevant to:	Precast concrete panel manufacturers, engineers
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Incident

WorkSafe Victoria advised of an incident in Victoria. Inspectors attended a precast concrete panel manufacturing factory after being notified of an incident where **a concrete panel stored in a rack had moved and slid along the timber bearers at one end whilst another panel was being positioned into the same rack using the overhead crane.**

An employee suffered serious injuries to the leg when struck by the collapsing panel.

Concrete Panel Racking System

- Completed pre-cast panels of various dimensions are stored vertically in racks at a number of locations around the factory
- Stored panels are supported off the floor on timber bearers
- Panels are secured in the storage racks by restraining pins



Picture of Concrete Panel collapse

Preliminary investigations

Following the incident, preliminary inquiries by WorkSafe Inspectors found:

- The collapse occurred as the worker was manoeuvring another panel in the rack using an overhead crane;
- Indications are that the collapsed panel had been held in position by one set of restraining pins, located at the top of the panel;
- The base of the collapsed panel had been supported on uneven timber bearers;
- The collapsed panel's restraining pins were of solid construction and appear to have bent in the incident.

Recommendations

WorkSafe expects racking systems used to store precast panels are designed according to recommendations outlined in the Foundations for Safety Victoria *Industry Standard for Precast and Tilt-up Concrete for Buildings*.

The recommendations for racking systems in part 6 of the Industry Standard, includes:

- Being designed by a qualified engineer with experience in this field
- Being large enough for precast elements to be stored properly with adequate room for lifting equipment and the manoeuvring of panels
- Having a robust structure able to support the weight of panels
- Being able to resist loads and forces applied to it, including impact loads during placement of panels
- Restraining panels in at least two points, at the top and the bottom of the panel, with the top restraints above the mid-height or centre of gravity of the panel
- Restraining pins must be of adequate length and strength
- Having alternative pin locations to be provide support for irregular shaped panels
- Having timber bearers of uniform size to support panels
- Holding panels firmly in place

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