

# TILT-UP AND PRE-CAST CONSTRUCTION

## LEARNING OUTCOME

Describe the requirements of the Work Health and Safety legislation and code of practice for tilt-up and pre-cast construction.

## ASSESSMENT CRITERIA

- Describe the statutory and minimum requirements relating to tilt-up and pre-cast construction.
- List the hazards that are associated with the processes of tilt-up and pre-cast construction.
- Describe the control measures that are available to minimise or remove the risk associated with these hazards.

## REFERENCES

- Work Health and Safety Act 2011 s19 – Duties
- Work Health and Safety Regulation 2011; (for associated activities eg. cranes, falls & falling objects ) - s291 – Meaning of high risk construction work
- Tilt-up & Pre-Cast Construction Code of Practice 2003;
- AS 3850 – Prefabricated Concrete Elements

## ASSOCIATED REFERENCES

- AS3600 – Concrete Structures;
- AS 1379 - Specification and supply of concrete;
- SA TS 101 – Design of post-installed and cast-in fastenings for use in concrete

## ATTACHMENTS

[Tilt-up and Pre-cast Construction Code of Practice 2003](#)  
[WHSQ Safety Alert – Concrete wall panels](#)  
[WHSQ Safety Alert – Precast wall panel failure](#)

## **TILT-UP AND PRE-CAST CONSTRUCTION**

### **CONSTRUCTION WORK - TILT-UP AND PRE-CAST CONCRETE**

Tilt-up wall panels and pre-cast concrete construction is where concrete structures are constructed ahead of their intended use and erected as part of a structure by lifting them into their final position by crane.

### **HAZARDS ASSOCIATED WITH TILT-UP AND PRE-CAST CONCRETE STRUCTURES**

In addition to the hazards associated with construction work, tilt-up wall panels and pre-cast concrete elements are in themselves hazardous and pose a significant risk at all stages of the construction process.

Specific hazards are associated with each stage of the concrete element construction work. That is; the design, prefabrication, handling, transport, storage, erection and temporary bracing, craning, fixing to the structure and during modification and demolition.

#### **Specific hazards include:**

- site features such as slopes, holes etc.;
- working near overhead power lines;
- exposure to weather conditions;
- working at heights;
- working near mobile plant
- hazardous manual tasks;
- working with hazardous chemicals; and
- traffic at or near the site

### **RISKS ASSOCIATED WITH TILT-UP AND PRE-CAST CONCRETE STRUCTURES**

The consequences of an uncontrolled collapse of a concrete wall panel is serious injury or death and therefore the risk assessment and subsequent controls must be comprehensive at every stage of the work process.

Workers can sustain severe crush injuries from uncontrolled collapse of a tilt-up wall panel. The severity of injuries resulting from a collapse is significant and prior planning is essential. The general type injuries that are associated with construction also apply here and include body stressing injuries, exposure to the weather elements, falls from heights and collision with mobile plant.

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