

# ADVISORY NOTICE BUILDING

02/10

*Advisory Notices are issued to assist in the interpretation of the Development Act 1993*

*August 2010*

## TECHNICAL:

### Exclusion of shed doors from shed designs

This Advisory Notice provides guidance about the need for doors of sheds to be appropriately designed and included in any structural adequacy assessment or independent certification.

#### BACKGROUND

Recently there was an incident in which the door of an industrial shed deformed and broke free from its restraints due to the wind loading on the structure. The incident appears to have been the direct result of excessive deflection in the door frame. The shed design had been independently certified however on closer examination of the documentation, the doors, and their connection to the shed, had been specifically excluded from the shed design. This means that the stability of the doors remained unassessed for compliance with the Building Rules.

#### DISCUSSION

When assessing a shed against the structural provisions of the Building Rules, it would be reasonable to assume that the shed doors were part of the shed structure and that they had been designed to resist the same wind loading as the shed structure.

However, a review of shed documentation produced by a range of shed manufacturers in South Australia revealed that the exclusion of the doors from the shed design is common practice. Hinges, latches and locks and in some case door tracks and beams are also excluded. These exclusions apply to all doors including personal access doors, roller doors and shutters and sliding doors. The documentation is clear in stating that these elements of the shed need to be designed by others.

In these circumstances the relevant authority may need to request further structural details from the applicant in relation to the doors to satisfy themselves that they are structurally sound. The decision to request further details should be based on a risk management approach. Consideration should be given to the location and the nature/use of the shed. It would be unreasonable to request additional information if the shed was a small domestic shed located on a site where the wind speed category was N1.

However, consideration should be given to requesting additional information for sheds that are more public in nature (such as industrial sheds associated with wineries or similar primary production) or are very large or those located in rural areas where the wind loadings are higher.

Recent research of high wind events by the Cyclone Testing Station at James Cook University has indicated that doors are a weak point in the structure and can lead to catastrophic failure of the building.



At the very least, if the door cannot be verified as being able to withstand the necessary wind pressures then it must be assumed that the door will fail with the potential for a dominant opening and increased internal pressure on the building.



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