Cyclone Testing Station
School of Engineering & Physical Sciences
James Cook University
Townsville QLD 4811 Australia

Telephone (07) 4781 4754
Facsimile (07) 4781 6788
Email: jcu.cts@jcu.edu.au
www.jcu.edu.au/cts

TECHNICAL ALERT No. 11/1 Revision A February 22 2011

GARAGE DOORS MUST BE FIT FOR PURPOSE

Garage doors once again have performed poorly in houses that experienced Tropical Cyclone Yasi. Doors have also failed in other buildings. This has been seen and reported before (see, for example CTS Technical Reports 51 and 55, as well as CTS Information Bulletin 4, all of which can be found at www.jcu.edu.au/cts).

While some doors may be satisfactory, there have been many examples of doors failing in otherwise undamaged contemporary housing as a result of Tropical Cyclone Yasi.

House near Mission Beach undamaged except for garage door failure. Shed also with failed roller door.

The CTS team has an initial opinion that winds in TC Yasi were less than those of a design wind event and we are working to clarify this. In anything less than a design wind event, there should be no door failures, other than perhaps due to the impact of flying debris. Should further investigation show that flying debris was a major cause of door failures in TC Yasi, consideration may need to be given to how to reduce the risk of such failures in the future.

All parties, including manufacturers, specifiers, builders, certifiers and insurers, should be working to ensure that all doors are fit for purpose and comply with the relevant regulatory requirements. All elements of the building envelope, including doors that are fitted to houses, must be capable of resisting the design wind pressure of the specific building site. The design wind pressure should be specified in accordance with Australian/New Zealand Standard 1170.2 *"Structural design actions Part 2: Wind actions"*or Australian Standard 4055 *"Wind loads for housing"*, as appropriate, for any building site in Australia. Written documentation from the manufacturer should be available or should be sought from the supplier to demonstrate that a door, including any associated components and connections, is capable of resisting the design wind pressure for its intended location prior to installation.

Note that where a door has failed in an event that is less than a design wind event (such as Cyclone Yasi), a "like-for-like" replacement is most unlikely to be adequate and indeed may not satisfy regulatory requirements.

For further information, please contact the Manager, Cyclone Testing Station, using the details given above.