

## **APPROVAL OF TOILET PAN EXHAUST SYSTEMS UNDER THE STANDARD BUILDING REGULATION AND STANDARD SEWERAGE LAW**

Building Codes Queensland has become aware of problems associated with toilet pan exhaust systems serving as the sole means of ventilating combined toilet/bathroom facilities. Some of these systems are gaining approval without any verifiable evidence that they perform to the requirements of the Building Code of Australia (BCA).

### **BCA requirements**

BCA performance clause FP4.3 requires that a space in a building used by occupants must be provided with means of ventilation with outdoor air which will maintain adequate air quality.

BCA performance clause FP4.4 requires that a mechanical air-handling system installed in a building must control the circulation of objectionable odours and the accumulation of harmful contamination by micro-organisms, pathogens and toxins.

Under BCA clause F4.5 'Ventilation of Rooms', a mechanical ventilation or air-conditioning system complying with AS 1668.2 and AS/NZS 3666.1 is 'deemed-to-satisfy' the BCA performance provision.

### **Assessment and approval of toilet pan exhaust systems**

Building certifiers should not be approving a toilet pan exhaust system unless they are satisfied it meets BCA requirements. In order to correctly assess such a system for approval under the Standard Building Regulation, it may be necessary to require the submission of certified test data to verify its performance.

Where a toilet pan exhaust system is proposed as the sole means of ventilating a combined toilet/bathroom facility, it must be capable of ventilating the total space (ie exhaust all toilet odours as well as any steam generated from the bathroom area).



As referenced in BCA clause F4.5, AS 1668.2 (under Appendix B) requires the minimum exhaust ventilation flow-rates in accordance with the type of enclosure served. For example, in a single sanitary compartment, Table B1 requires the compartment to be ventilated at a flow-rate of at least 25 l/s for each fixture. (The same minimum flow-rate is stipulated whether or not a bath, shower, water closet or hand basin is situated in the compartment.)

The use of toilet pan exhaust systems (local exhaust systems) in a single sanitary compartment is covered by the note on clause 3.2.1 of AS 1668.2. This allows for a local exhaust system which can be demonstrated as being effective in the removal of contaminated air (effluents). Such a system may be used subject to approval, in lieu of part or the whole of the general exhaust ventilation.

Where a local exhaust system does not satisfy AS 1668.2 or the BCA performance requirements on its own, it would need to be supplemented with an additional method of ventilation.

A toilet pan exhaust system is also considered to be a plumbing product since it is fitted into a plumbing fixture. It is therefore required by the Standard Sewerage Law to be an approved product. Such products either must be accredited by Quality Assurance Services, a division of Standards Australia, or have a current authorisation from the Joint Committee.