

Our ref : APPBCA-2021-06

17 March 2021

To: Building Owners, Developers, Architects,
Engineers, Builders and Facility Managers

For enquiries, please contact:
Building Resilience Group (#10-01)
Tel: 1800 3425 222 (1800-DIAL-BCA)
or use our Online Feedback Form at:
<https://www.bca.gov.sg/feedbackform/>

ADVISORY ON GOOD PRACTICES FOR DESIGN AND MAINTENANCE OF ACMV FIXTURES

This Circular advises the industry on good practices for the design and maintenance of air-conditioning mechanical ventilation (ACMV) fixtures, especially in public spaces and venues with high ceiling spaces more than 3m deep such as cinemas, auditoriums and convention centres.

2 There was an incident where an ACMV dropper duct detached from the ceiling due to an accumulation of water from condensation and it subsequently overloaded the supporting bracket. As such incidents pose a risk to public safety, these good industry practices for the design and maintenance of ACMV and other similar systems, such as prefabricated Mechanical, Electrical and Plumbing (MEP) system, can minimise it:

- a) A registered Professional Engineer (PE) in the Mechanical engineering discipline should be engaged to review the design of the insulation system and the design of its acoustic provisions as a whole to ensure that there is no risk of excessive condensation, which may lead to the accumulation of water in the duct;
- b) A registered PE in the Civil engineering discipline should be engaged to design and supervise the installation of the supporting structures of the system. The design should consider:
 - i) Loadings such as weight of services and its supporting frames;
 - ii) Robustness such as provisions for redundancy and consideration of uneven distributed load in multiple hanging system; and
 - iii) Capacity of the supporting brackets and anchors based on manufacturer's recommendations;
- c) Lightweight ducts or prefabricated MEP system can be used for better quality control and productivity improvement; and
- d) Building owners are to regularly inspect and maintain the system, keep maintenance records and rectify any defects promptly.

Clarification

3 Please bring the contents of this circular to the attention of your members. Should you need any clarification, please submit your enquiry through BCA's Online Feedback Form at <https://www.bca.gov.sg/feedbackform/> or call us at 1800 342 5222.

4. Thank you.

Yours faithfully



Er. TAN CHUN YONG
DIRECTOR, BUILDING RESILIENCE GROUP
for COMMISSIONER OF BUILDING CONTROL