



AS 1670.1 - 2015

Fire detection, warning, control and
intercom systems—System design,
installation and commissioning

Presented by:

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Presentation Content

- NEW SECTION 7 – ‘SMOKE CONTROL’
- RELOCATION OF SMOKE DETECTION, INITIATION AND CONTROL REQUIREMENTS FROM AS1668.1 & AS4428.7 TO AS1670.1
- CHANGES AND WHAT THEY MEAN



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PURPOSE OF REVISION

- Overdue update of 17 & 11 year old Standards.
- Combine previously fragmented information into a single practitioners document.
- Provide clarification around known misinterpretations.
- Remove confusion in the industry in the differences between AS 1670.1 and AS 1668.1 smoke detection systems.
- Provide improved language, definition structure and relevant updated diagrams.



AS 1670.1 SECTION 7

SMOKE CONTROL

New Section combining relevant information from AS1668.1, AS 4428.7, AS1670.1 and BCA Spec E2.2a Clause 5.

Sets out the requirements for smoke detection, initiation and control of air handling systems required to operate in fire mode (systems detailed in AS1668.1 -2015).

Detection and control is required to comply with all other sections of AS1670.1 except where varied by Section 7.



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AS 1670.1 SECTION 7

SMOKE CONTROL

Changes - Fire Fan Control Panels:

- All the Fire Fan Control Panel (FFCP) requirements from AS4428.7 and AS 1668.1 have been incorporated into Section 7 of AS 1670.1 and made consistent (rectifying previous conflicts).
- Requirements for phase fail fault conditions at MSSBs serving smoke control systems clearly defined in terms of how they are indicated on the FIP and FFCP.



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AS 1670.1 SECTION 7

SMOKE CONTROL

Changes – includes smoke detection for hot smoke layer systems (subject to future NCC reference):

- The legislative requirements previously only existed in NCC BCA Spec E2.2a Clause 5.
- In time the NCC may reference the relevant parts of Section 7 of AS1670.1 & AS 1668.1.



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AS 1670.1 SECTION 7

SMOKE CONTROL

Changes cont':

- Reference to the term 'Occupied space' in relation to detection requirements changed to a defined term 'Circulation Space'.
- Requirement to use photoelectric type smoke detection technology for all smoke control initiating systems. This aligns with AS 1670.1 and BCA requirements for paths of travel to exits, sleeping areas, patient care areas and atria.



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AS 1670.1 SECTION 7

SMOKE CONTROL

Changes cont':

- Detection spacing reduced from 20m to 15m
- Removal of requirement for return air smoke detection based on detection installed in compliance with Section 7.
- Clarification around smoke detection in car parks served by pressurised exit systems and lifts.



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SMOKE CONTROL

Changes cont':

- Minimum fault tolerance requirements and redundancy specified where a single fault shall not disable more than one smoke control zone (previously loosely defined).
- Minimum wiring protection systems defined for initiating smoke detection and FFCP control wiring.
- Exclusion of BMS, DDC and PLC based control systems from activation and control of smoke control systems.



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Changes cont':

- Method of interface of FFCP wiring to MSSBs and MCCs clearly defined.
- Requirement for heat detectors in carparks with no sprinklers and fitted with ventilation complying with AS1668.2.
- Electrical reference to AS/CA S009 for detection and control as opposed to previous reference to AS 3000.



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AS 1670.1 SECTION 7

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Kitchen Hood exhaust systems:

- Now required to continue to run in fire mode if already running.
- If forming part of the smoke control system, must have controls and indicators on the FFCP.



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AS 1670.1 GENERAL

More changes:

- Baseline data, test results & documentation shall be **readily available at the site**
- Improved documentation requirements:
 - Requirements to consult with the mechanical designer
 - Design documentation (e.g. Fire systems cause & Effects)
 - O&M instructions & equipment schedules
- Improved testing requirements moved to appendix as informative text



AS1670.1 SECTION 7

SMOKE CONTROL

CONCLUSION

- The merging and integration of the requirements of these standards into a single document has been a huge undertaking.
- Public comment input was of a high standard.
- The Standards will run for a minimum three years in the next three year NCC edition.
- We are preparing for an amendment at the end of that period to address any unintended issues as a result of these major revisions.



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Thankyou



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