

Date : 23 May 2019

Our Ref: CD/FSSD/12/02/03/01

Registrar, Board of Architects
Registrar, Professional Engineers Board
President, Singapore Institute of Architects
President, Institution of Engineers, Singapore
President, Association of Consulting Engineers,

Singapore

Dear Sir/Mdm

AMENDMENTS TO FIRE CODE 2018 – DESIGN PARAMETERS OF SPRINKLER SYSTEM PROTECTING ATRIUM CEILING HEIGHT EXCEEDING 9M BUT NOT MORE THAN 18M

In anticipation of the new edition of SS CP 52 which will be revised to allow atrium ceiling not exceeding 18m to be protected by sprinklers, SCDF has amended the relevant clause in the Fire Code 2018 (*Cl.6.4.1e.*) to be in synchronisation with the SS CP 52. However, due to unforeseen circumstances, the release of the new edition of SS CP 52, which was originally scheduled to be in late 2018/early 2019, has been postponed.

2. In view of the above, SCDF has obtained the consent of the Enterprise Singapore's Working Group for SS CP 52 to release the attached design parameters (see Annex A) for sprinklers installed at atrium height exceeding 9m but not more than 18m. This set of design parameters shall be superseded by that in SS CP 52 once the new edition of SS CP 52 is released to the industry.



SCDF – A member of the Home Team

HQ SINGAPORE CIVIL DEFENCE FORCE, 91 UBI AVENUE 4, SINGAPORE 408827
TEL: 68481457 FAX: 68481493 EMAIL: TAN_Chung_Yee@scdf.gov.sg



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3. Any proposed plans of fire safety works involving the installation of sprinklers for protection of high ceiling in atrium spaces shall adopt the design parameters appended in Annex A of this circular.

4. Please convey the contents of this circular to members of your Board/ Institution/ Association. This circular is also available in CORENET's e-Info: <http://www.corenet.gov.sg/einfo>.

5. Please contact Mr Randy Tan at DID: 68481461 or CPT Izwan at DID: 68481413 for any query.

Yours faithfully

(transmitted via email)

MAJ Tan Chung Yee
Fire Safety & Shelter Department
for Commissioner
Singapore Civil Defence Force

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DESIGN PARAMETERS FOR SPRINKLER PROTECTING ATRIUM
CEILING HEIGHTS EXCEED 9M BUT NOT MORE THAN 18M:

For atrium where ceiling height exceeds 9m but not more than 18m, the sprinkler design shall comply with all of the following design parameters:

- (a) Design density of discharge - 8mm/min
- (b) Maximum area coverage per sprinkler - 9m²
- (c) Assumed area of operation - 230m²
- (d) K-factor of sprinkler - at least 11.2 (usgpm/psi^{0.5}) in imperial unit or at least 16.1 (l/min/kPa^{0.5}) in metric unit
- (e) Type of sprinkler - fast response
- (f) Minimum discharge pressure - 50 kPa
- (g) Full hydraulic design for water supply
- (h) Water storage capacity - 60 minutes based on the maximum pressure and flow requirements derived from full hydraulic calculations