

Fire formal interpretations

8 November 2017

FI-132

NZS4541:2013 – Clause 511.11

Note: This Formal Interpretation supersedes Formal Interpretation FI-113, dated 28 May 2014.

Background:

Formal Interpretation FI-113 dated 28 May 2014 confirmed that sprinklers are not required below domestic kitchen extractor hoods, but extraction ducts with a cross-sectional dimension 300mm or greater require protection as per Clause 511.11.2.

Typical apartment building design has changed in the recent years with floor-to-floor levels being reduced to optimise the maximum height limits of the buildings. This is resulting in reduced depths of ceiling voids in which the services are to be run. Kitchen extract ducts are being reduced in height and increased in width to provide the required cross sectional area for air movement, thus causing the ducts to be wider than the 300mm limit defined in 511.11.2.

These domestic ducts have never required protection in the past due to the ducts being circular or square and less than 300mm in diameter or cross section. It appears logical that the cross-sectional area of the duct should be referenced in the Standard rather than the cross-sectional dimension. Examples of duct dimensions being installed in recent projects are 400x80, 500x100 and 350x150. In these examples, the cross-sectional area of these ducts are significantly less than a 295x295 duct (0.087 m²) which does not require protection under Clause 511.11.2.

Question:

- (1) Is it appropriate for domestic kitchen extractor ducts to have a cross sectional dimension greater than the 300mm defined in Clause 511.11.2 as long as the cross-sectional area does not exceed .09 m² (300 x 300mm).
- (2) Does clause 511.11.1 apply to extractor hoods manufactured predominately for use in domestic kitchens when no deep fryers are present?

Interpretation issued by the Fixed fire protection group:

- (1) This interpretation is made under- clause 111.2 (c) of the standard, as it clarifies wording of the Standard that does not meet the intent of the committee.

The interpretations committee agrees that the intent of the drafting committee was not to require sprinkler protection of domestic kitchen extractor hoods with a dimension exceeding 300mm, under the following conditions:

- (a) The perimeter of the duct does not exceed 1200mm.
 - (b) Only a single domestic kitchen extraction hood is served by the duct.
 - (c) The duct is contained within a single fire cell, and does not transition through another fire cell, (such as through another apartment's ceiling space.)
- (2) No, unless the SSC deems that protection is required under such extraction hoods with reference to 511.13