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| Capital Development Guidelines Series 7, Fire Risk Management Non-Standard Security Fittings |
| Practice Note – 2019-02 July 2019 |

# Application

Applies to Capital Development Guidelines (CDG) – Series 7 – Fire Risk Management for Single Dwellings (Guideline 7.8) only.

# Issue

There has been an increasing number of requests by tenants to install non-standard security fittings to openings in single dwellings to increase the level of security. The typical non-standard security fittings include:

* Security shutters to window openings and doors (i.e. patio doors which are not exits).
* Key locks on windows.
* Perforated metal screens to window openings e.g. Crimsafe screens.

# Background

An increasing number of Department owned rental general stock single dwellings are being used to accommodate families which have been relocated due to a domestic violence order. As such, tenants are requesting additional security features on openings in the building in order to increase the level of security.

# Analysis

## Compliance with the Building Code of Australia

Department owned single dwellings are typically National Construction Code – Building Code of Australia (BCA) Class 1a properties. BCA Volume 2, applicable for Class 1 and 10 buildings, does not specifically restrict single dwellings from having non-standard security fittings, such as those mentioned in the Issue section.

In regards to egress, BCA Volume 2 does not have any specific requirements on the number of exit doors or the maximum travel distances to an exit in a Class 1a building. The only requirement is that a primary exit/ entrance is provided. BCA Volume 2 also makes no mention on the use and requirement of secondary exits such as window openings to evacuate.

## Compliance with CDG 7.8

Unlike buildings required to meet the requirements of CDG 7.4 (Supported Community-Based Housing), CDG 7.7 (Community-Based Housing) and CDG 7.10 (Accommodation Buildings) for which both primary and secondary exits are required, CDG 7.8 does not specify the number of exits required for a single dwelling. Practice Note-2014-02 Doors and Door Hardware Devices (applicable to CDG 7.4, CDG 7.7 and CDG 7.10) makes it clear that a secondary exit can be a window subject to a fire risk assessment and that primary and secondary exits are not to be fitted with non-standard security fittings.

When considering whether a non-standard security fitting is fit to be installed within a dwelling the following fire safety related items must be considered:

* Does the applicable CDG restrict the provision of the non-standard security fitting?
* Will the non-standard security fitting adversely affect the fire and life safety of tenants?

Regarding the first point, CDG 7.8 does not consider the installation of non-standard security fittings to windows or other openings.

To determine if the use of non-standard security fittings for windows and patio doors and the like will adversely affect the fire and life safety of tenants, a risk assessment must be carried out, or it is demonstrated that the design solution complies with CDG 7.8 and Table 1. The findings from any risk assessment must be considered by the Department prior to approval of a non-standard security fitting.

## Risk Assessment

CDG 7.8 considers that the tenants within the residential accommodation are broadly representative of the general community and the typical client profile is Type 1 and the staff profile is Type 1 (no staff present). Tenants are therefore considered to be able to evacuate independently.

CDG 7.8/ BCA Class 1a single dwellings typically only contain a mains powered smoke alarm (with the addition of an inbuilt non-removable rechargeable battery) in the corridor outside the bedrooms. The purpose of the smoke alarm is to detect smoke in the corridor and awake occupants sleeping in the bedrooms.

In the event of a fire in the building, the smoke alarm will detect smoke and alert occupants to evacuate the building. If occupants are unable to evacuate via the primary exit, even though not considered by the BCA or CDG 7.8, occupants could evacuate via the window openings as a final option.

If the non-standard security fittings, such as those mentioned in the Issue section, are provided to the afore-mentioned window openings or patio doors, the alternative means of escape is no longer available, and should a fire block the primary exit, occupants will have no means of escape. On the other hand, if a secondary exit (not protected by a non-standard security fitting) is also provided, then protection of other windows/patio doors with non-standard security fittings would be acceptable.

Possible design solutions which should be considered in relation to the potential use of non-standard security fittings are given in Table 1.

Table 1 – Possible Design Solutions

| Non-Standard Security Fitting | Installation | Additional Measures |
| --- | --- | --- |
| Design 1  Perforated metal screens to window openings e.g. Crimsafe screens | External face of openings | Perforated metal screens are to be provided with a keyless exit system e.g. Crimsafe Safe-S-Cape or similar. |
| Design 2  Security shutters or fixed metal screens to window openings and doors (i.e. patio doors which are not exits)  or  Key locks on windows. | External face of openings | Improved early detection and warning.  Additional smoke alarms are to be provided on the ceiling in every bedroom, in exit routes, hallways and living areas. In bedrooms, smoke alarms are to be located within 3m from the bed head/ pillow position.  The smoke alarms must be powered directly from the 240V main power supply with battery backup. All smoke alarms must be interconnected (hardwired) so that activation of a single smoke alarm will cause all the smoke alarms in the building to sound.  The smoke alarm battery backup must be a type that is rechargeable, non-removable, that has a minimum expected lifespan of 10 years, and battery life of 6 months without primary (mains) power supply.  Smoke alarms are to be maintained as per regulatory requirements.  Sufficient Alternative Exits  The building is to be provided with both a primary and secondary exit (main entrance and a rear entrance). Both exits are to be free to egress and openable via a single handed downward action.  Neither exit can be fitted with a non-standard security fitting. |

The following table provides a comparison of the proposed design against a BCA DtS design.

Table 2 – Comparison to BCA DtS

| Parameter | BCA DtS Design | CDG 7.8 & Practice Note 2018-02 Compliant Design – Design 1 | CDG 7.8 & Practice Note 2018-02 Compliant Design – Design 2 |
| --- | --- | --- | --- |
| Occupants | Representative of the general population | Representative of the general population – Client Profile Type 1 | Representative of the general population – Client Profile Type 1 |
| Non-Standard Fittings | No restriction | Perforated metal screens with keyless exit system | Key locked windows, metal shutters or fixed closed metal screens |
| Fire Safety Systems | Smoke alarm in bedroom corridor | Smoke alarm in bedroom corridor | Interconnected smoke alarms throughout |
| Number of Exits | Primary exit | Primary exit | Primary and secondary exits |
| Exit Door hardware | Deadlocks permitted | Deadlocks not permitted | Free to egress door hardware |

As demonstrated in the above table, the proposed CDG 7.8 & Practice Note 2018-02 compliant designs are safer than a BCA DtS design as:

* In the case where perforated metal screens are provided, occupants can still evacuate via the windows/ openings.
* In the case of key locked windows, metal shutters or fixed closed metal screens to openings, an alternative exit along with additional smoke alarms are recommended to provide early detection and improve the evacuation time, thereby reducing the need for occupants to utilize window openings or patio doors to evacuate.

# Outcome

The following flow chart summarizes the process for determining the acceptability of a non-standard security fitting as mentioned in the Issue section, for a dwelling.

Flow Chart – Summary of Process

This flow chart summarises the process of having non standard security fittings approved which is described in the Risk Assessment Section of this Practice Note 

Note 1: The appointed Relevant Building Surveyor and Fire Safety Engineer (where required) are to be accredited practitioners with the Department. A list of Department accredited practitioners is available at [Department of Health and Human Services – Service providers, Fire risk management accreditation](https://providers.dhhs.vic.gov.au/fire-risk-management-accreditation) <https://providers.dhhs.vic.gov.au/fire-risk-management-accreditation>*.*

The Department of Health and Human Services Fire Services Team are to be included as a stakeholder on all Fire Risk Assessments. The Fire Services Team Coordinators can also assist in arranging Capital Development Guideline compliance checks and engaging accredited Fire Safety Engineers.

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