



**CONFIDENTIAL**



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Chartered Professional Fire Safety Engineering Consultancy

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# consultants advisory note

## 4 Albert Street Margate QLD

The purpose of this letter is to review the fire resistance level of the residential (class 2) part of the building with use of 10mm MgO Corp either side of a timber stud frame.

The minimum fire safety measures required within the building are determined in accordance with several specifics of the building including the various occupancy classifications, effective height, rise in storeys, compartment size and building floor area.

**TABLE 1:**

**BUILDING CLASSIFICATION DETAILS**

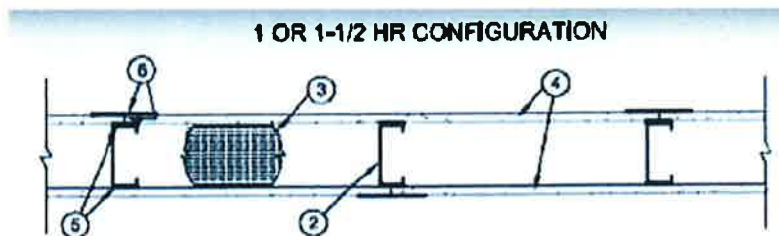
Project	4 Albert Street
Occupancy	Carpark / Residential
Classification	7a / 2
Building height	<9 m
Effective height	2.6 m
Rise In storeys	2
Number of storeys	2
Type of construction	B

Source: BCA 2015

In accordance with Table 3 of Specification C1.1, a loadbearing external walls of a residential building of type A construction is required to have an Fire Resistance Level (FRL) of 90/90/90 minutes and -/90/90 minutes for non-loadbearing walls within 1.5m of the boundary. For non-loadbearing walls more than 1.5m from a fire source feature need only a -/60/60 minute FRL and when greater than 3m an FRL of -/-/ minutes.

Clause 3.5 of Specification C1.10 of the BCA provides a concession for the roof to not need to comply with Table 3 (FRL requirements) if it is of Class 2 occupation. Clause 3.7 of Specification C1.10 of the BCA provides a further concession for internal columns and walls immediately below the roof to have an FRL of 60/60/60. The subject of this advise relates to the external walls that are not provided with a concession under the BCA

The MgO Board has been tested to the standard fire test as defined within the Building Code of Australia in accordance with BS 476-Part 22 full scale testing where a single board achieves an FRL of 60/60/60 minutes. Underwriters Laboratories Inc report BXUV.U055 details the various conditions to achieve fire resistance levels in accordance with ANSI/UL 263. The MgO Boards are UL marked in accordance with the requirements of the report. The Underwriters Laboratories report highlights a configuration of a single sided stud wall to achieve an FRL of 60 minutes and where the panel is located on both sides of the stud an FRL of 90 minutes is achieved.



The MgO Board product is certified under the CodeMark Certification Scheme CMA-CM40009 for compliance against the BCA for use in multiple configurations. The detailed fire ratings under condition f establish the minimum FRL achieved in each configuration. The CodeMark certificate provides details of harmonized wall systems to comply with both fire and acoustic requirements. Further details of the products compliance can be found on the Australian Building Codes Board registry, see [www.abcb.gov.au](http://www.abcb.gov.au). A copy of the certificate available on the CertMark International product registry, see [www.certmark.org](http://www.certmark.org).

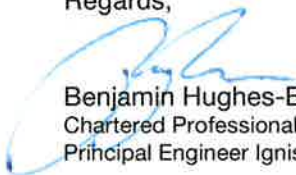
The CodeMark Certificate references under condition (a) the MgO Corp Board Fire and Acoustic Walls, Ceilings and Floors Installation Manual (FIM-Edition 5-2015). The manual is reviewed and approved through the certification process to achieve CodeMark Certification. The manual provides specific configurations. The two approved configurations in accordance with the CodeMark Certificate for the 10mm board are detailed below.

- 10mm – single panel on stud – loadbearing 60/60/60, non-loadbearing -/120/120.
- 10mm – panel either side of stud – loadbearing 90/90/90, non-loadbearing -/180/180.

With the panel configuration being a 10mm board on either side of a timber stud, an FRL 90/90/90 minutes from the cumulative effect of the two MgO Boards can be established outside of the combined acoustic results as listed on the CodeMark certificate.

It is considered in the authors opinion that the configuration of the wall system at 4 Albert Street Margate will achieve the Fire Resistance Level to the degree necessary in accordance with the Building Code of Australia.

Regards,



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Principal Engineer Ignis Solutions



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